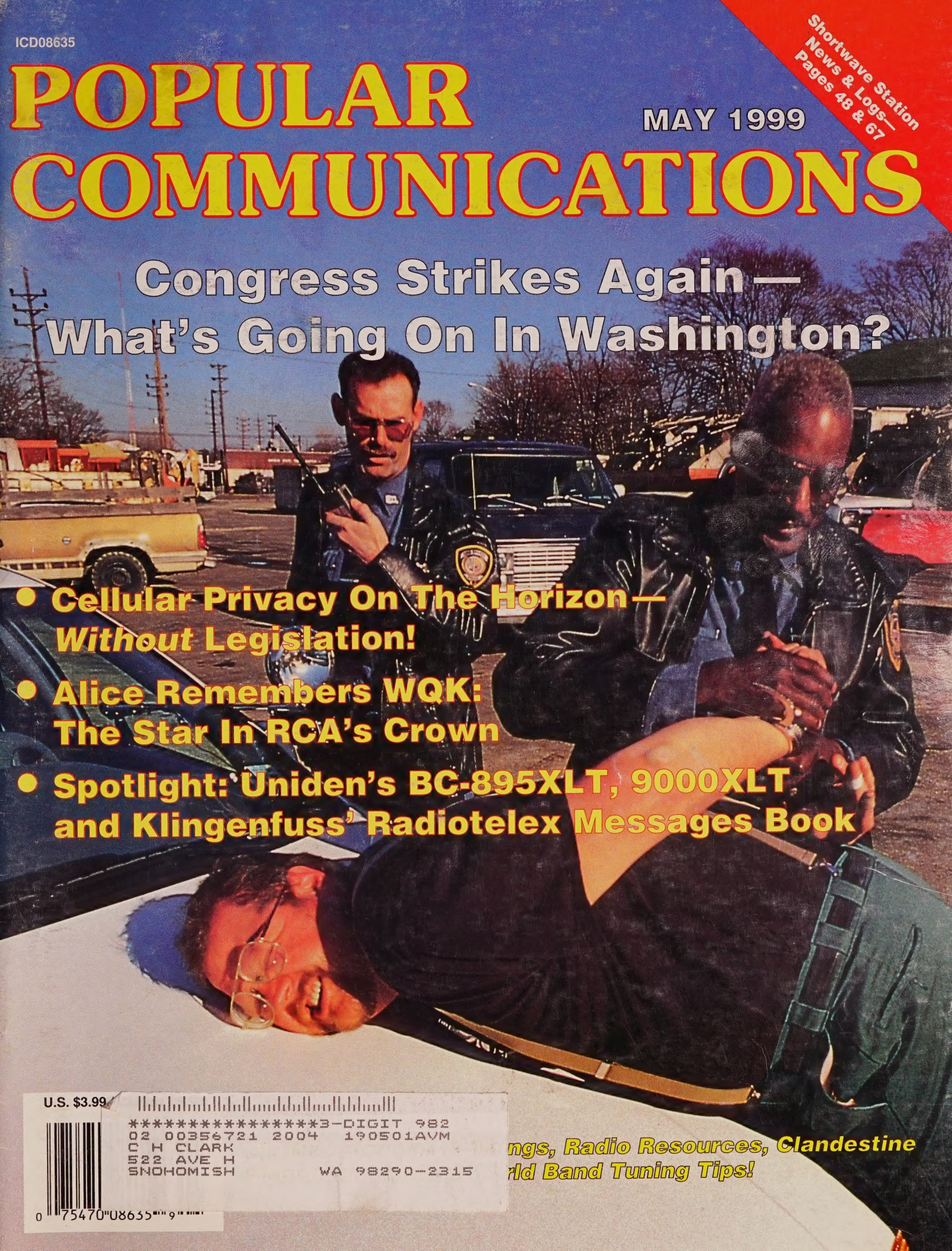
ICD08635

POPULAR COMMUNICATIONS

MAY 1999

Shortwave Station News & Logs— Pages 48 & 67



Congress Strikes Again— What's Going On In Washington?

- **Cellular Privacy On The Horizon— *Without* Legislation!**
- **Alice Remembers WQK: The Star In RCA's Crown**
- **Spotlight: Uniden's BC-895XLT, 9000XLT and Klingenfuss' Radiotelex Messages Book**

ngs, Radio Resources, Clandestine
rld Band Tuning Tips!

U.S. $3.99

0 75470 08635 9

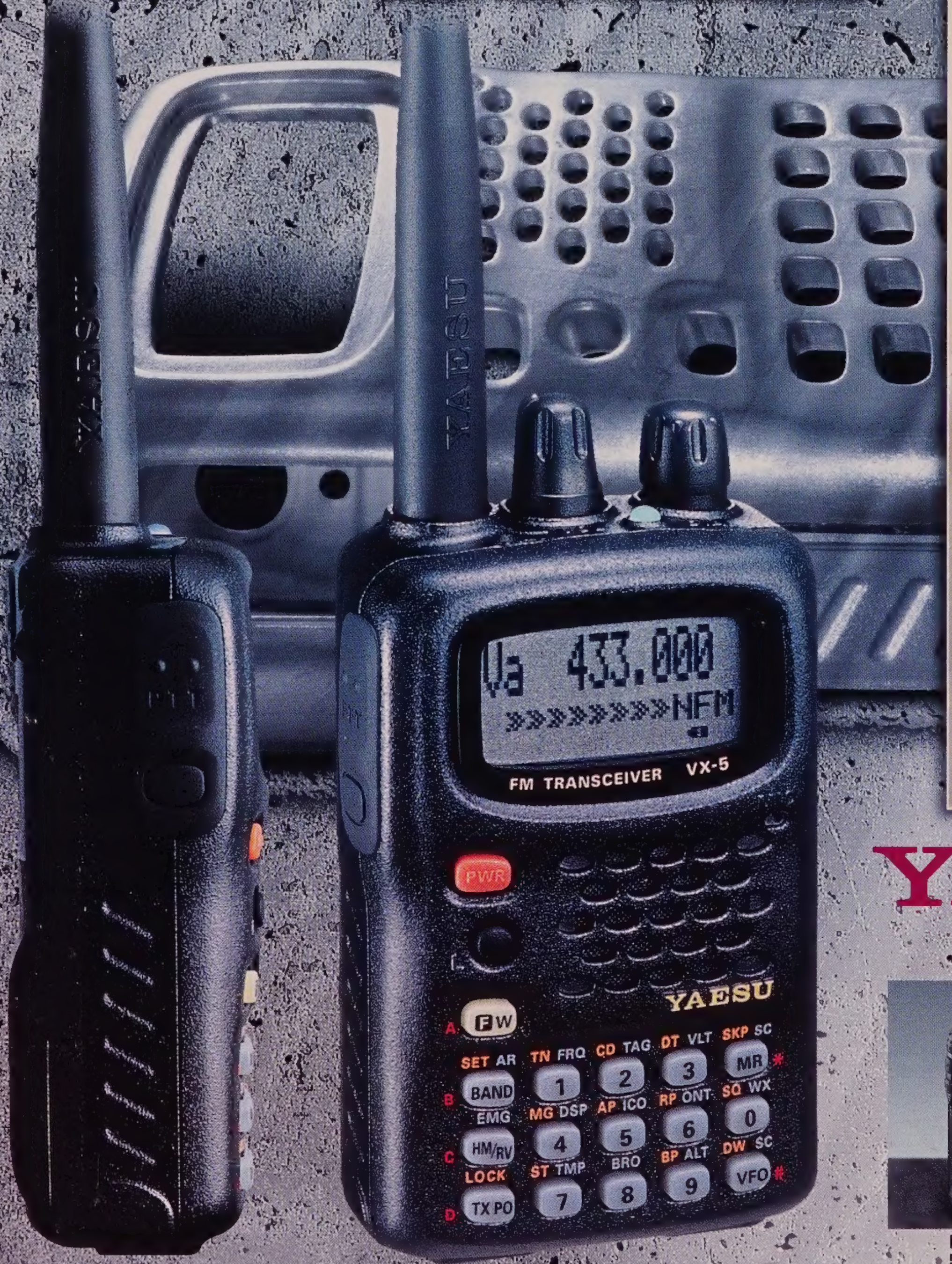
```
******************3-DIGIT 982
02 00356721 2004   190501AVM
C H CLARK
522 AVE H
SNOHOMISH          WA 98290-2315
```

INTRODUCING THE MOST DURABLE HT EVER!

US MILITARY
APPROVED
MIL-SPEC 810

VX-5R

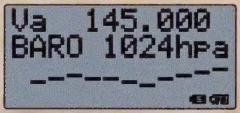
50/144/430 MHz TRIPLE-BAND
HEAVY DUTY FM TRANSCEIVER



Actual Size 5 W Version

Features

- Frequency Coverage
  Wide Band Receive
  RX : 0.5-15.995 MHz 48-728.990 MHz
  800-998.990 MHz (Cellular Blocked)
  TX : 50-54 MHz 144-148 MHz
  430-450 MHz
- 5 W Power Output (430 MHz: 4.5 W)
- AM/Shortwave Receive
- AM Aircraft Receive
- Ultra Compact: 2.4" x 4.1" x 1.3"
- Aluminum Diecast Case
- MIL-STD 810 Rating
- High-Capacity Lithium-Ion Battery: 7.2 V @ 1100 mAh!
- CTCSS and DCS Built In
- Dot Matrix LCD
- Optional Barometric Sensor Unit



- Dual Watch
- Spectra-Scope™ Graphical Display
- 220 Memories plus "Home" Channels
- Ten Pairs of "Band Limit" Memories
- Ten Auto-Scan Weather Channels (North American version)
- 8-Digit Alphanumeric Memory Tags
- Convenient Icon Display Mode
- Smart Search™ Automatic Memory Loading
- Automatic Repeater Shift
- Auto-Range Transponder System (ARTS™)
- Multiple Battery Savers
- Time-Out Timer (TOT)
- Busy Channel Lock Out (BCLO)
- Versatile High-Speed Scanning
- 16-Digit 9-Memory DTMF Autodialer
- One-Touch Emergency Channel
- ADMS Windows™ PC Programmable
- Innovative Multi-Section Antenna
- Full Line of Accessories

YAESU

...leading the way.℠

FT-50RD
5 W Heavy Duty
Dual Band Handheld

VX-1R
Ultra Compact
Dual Band Handheld

©1999 Yaesu USA, 17210 Edwards Road,Cerritos, CA 90703. (562) 404-2700 Specifications subject to change without notice. Specifications guaranteed only within Amateur bands.Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details.

For the latest Yaesu news, hottest products:
Visit us on the Internet! http://www.yaesu.com

LENTINI
COMMUNICATIONS, INC.

Toll Free
1-800-666-0908
In CT 860-666-6227

ICOM

PCR1000

NEW!

CALL FOR MORE INFO & PRICING

Communications Receiver For Computer
- Covers .01-1300MHz.
- All Mode WFM, FM, AM, SSB, CW.
- Employs Band-Tracking RF Filters.
- Connects to Your PC Externally.

IC-R10
- Wideband, All Mode Receive Capability From 100 kHz to 1300 MHz.
- 1000 Memory Chan. With 8-Character Alphanumeric Names.

Many Other Features!

IC-R8500

Communications Receiver
- Wideband, All Mode Receive From 0.1 to 2000 MHz.
- Many Features Similar to IC-R10

CALL FOR PRICING!

IC-R2

Ultra Compact, Super Wide Band

$219.95
UPS Inc.
- The New Mini-Sized Scanner From ICOM is Now Available.
- 500kHz-1.3GHz (Less Cellular) AM/FM/WFM.
- Loud And Crisp Audio, Backlit LCD.
- Triple Conversion, Built-In Attenuator.
- 400 Memories, 8 Banks of 50 Chan.
- CTCSS Tone Squelch and Tone Search.
- Includes 2 AA Size Ni-Cd Batteries and Charger.
- PC Programmable (Software and Connection Cable Optional).
- More!

IC-PCR100

NEW!

NEW! Communications Receiver That Hooks Up to Your Computer
- Like Its Big Brother, the IC-PCR1000, But With AM,FM and WFM Modes, A New Interface, & A Lower Price.
- About The Same Size As A Portable CD Player.
- Comes Complete With Windows® Type Software, Longwire Antenna, AC Adapter, And Operation Manual.

***$269.95* UPS Inc.**

SONY

ICF-SC1PC

NEW!

Sony ICF-SCIPC Radio Frequency Scanner
- Total Control of Scanning from PC or Scanner.
- Supplied CD-ROM Lists All Receivable Frequencies in the US.
- Scans All Frequencies Allowed by the FCC from 25MHz to 1,300 MHz.
- 300 Channel/AM/WFM/NFM

Call For More Info.
$319.95

ICF-SC1
(Not Computer Programmable, No CD-Rom)
$259.95

uniden

BC895XLT

"TrunkTracker"

$229.95
UPS Included

BC235XLT

Handheld "TrunkTracker"

$199.95
UPS Included

BC9000XLT $379.95
BC3000XLT $359.95
UPS included

AOR USA, Inc

AR8200B

NEW!
- .5-2040MHz
- AM, NFM, WFM, SSB, CW.
- Alpha-Num.
- Computer Prog.

$549.95

ALSO AVAILABLE

AR8000B
AR3000A
AR5000
AR5000 + 3
AR7030
AR7030 Plus
SDU5500
ARD-2

FULL LINE OF AOR ACCESSORIES

CALL FOR MORE INFO & PRICING
Unblocked versions available to qualified agencies

YAESU

VX-1R

World's Smallest Dual-Band Amateur Handheld
- Wide-Band Receive From 76-999MHz, CTCSS/DCS
- Alphanumeric Display.
- 500mW Power Output 1 Watt w/External Power.
- Call For More Info.

Yaesu/Vertex VXF-10 ADVENTURER

Available in Black, Yellow (Special Order)
- 14 Channel Digital Coded FRS Two-Way Radio with National Weather Service Reception.
- 500mW RF Output Power/2 Mile Range.
- No License Required.

each only
$99.95
or 2 for
$189.95

VX-5R

Yaesu VX-5R Tri Band Handheld Transceiver

NEW!
- Wide Band Receive
  RX: 0.5 - 15.995 MHz,
  48-728.990 MHz,
  800-998.990 MHz
  (Cellular Blocked)
  TX: 50-54 MHz,
  144-148 MHz, 430-450 MHz
- 5W Power Output
- 220 Memories
- AM/NFM/WFM
- CTCSS Encode/Decode, Digital Coded Squelch (DCS)
- 8 Character Alpha Display.
- ADMS-1E Windows™ PC Programmable (Optional)
- Much, Much More

CALL FOR PRICING!

ALINCO®

DJ-X10

NEW!

Wide Range Receiver
- Multi-Mode Reception From .1 to 2000MHz.
- Channel Scope.
- AM/WFM/FM/SSB/CW.
- 1200 Memories.
- Superb Sensitivity, Clear Sound.

$379.95

Drake Shortwave Radios
R8A ....$999.95 + $14 UPS
R8B (new) ....$1159.95 + $14 UPS
SW8..........................$779.95 + $10 UPS
SW2..........................$399.95 + $7 UPS
SW1..........................$199.95 + $7 UPS

SONY
ICF-2010 ....$349.95 + $7 UPS
ICF-SW77....................$469.95 + $7 UPS
ICF-7600G...................$169.95 + $6 UPS
ICF-7600GS ....$234.95 + $7 UPS
ICF-SW1000TS ....$469.95 + $7 UPS
ICF-SW100S ....$369.95 + $7 UPS

TEKK PRO-SPORT
TF-461-FRS 14 Channels....Each $69.95
pair for $129.95

Cherokee CB
CBS-1000 AM/SSB Base.................CALL
CBS-500 AM Base..........................CALL
CM-10 AM Mobile ....CALL
AH-27 Walkie.................................CALL
AH-100 AM/SSB Walkie ....CALL
FR-465 Family Radio.......................CALL
CALL FOR ALL CB EQUIPMENT

10-Meter
2950 ....CALL
2970 ....CALL
2990 ....CALL
Northstar ....CALL

SANGEAN

ATS-909
AM/ FM/ SSB Shortwave
$249.95
+ $8 UPS

GRUNDIG
Shortwave

Yacht Boy 400PE
$199.00
UPS Included

RELM

MS200
$239.95
UPS Included

HS200
$199.95
UPS Included

OPTOELECTRONICS®

Scout
- 10MHz-1.4GHz
- Stores 400 Freq. In Mem.
- Reaction Tune The AOR AR8200, AR8000, ICOM R10, R8500, Opto R11.
- 10 Digit LCD With Signal Strength Bar-Graph
- Vibrater And Beeper Alert Mode.

***$349.00* UPS Inc.**

Package Pricing With AOR AR8200B:
AR8200B Receiver.
RT8200 Hook Up Cable, Scout ***$899.95***
Package Pricing With ICOM IC-R10
IC-R10 Receiver, Hook-Up Cable, Scout ***$699.95***

HOURS: M-F 10am - 6pm SAT 10am-1pm UPS Ground (48 states)

Conn Sales Infor. & Tech Help 860-666-6227
Web Site: www.lentinicomm.com

C.O.D.'s OK
SAME DAY SHIPPING

21 Garfield St. Newington, CT 06111

DISCOVER
MasterCard
VISA

CIRCLE 145 ON READER SERVICE CARD

POPULAR COMMUNICATIONS

MAY 1999 VOLUME 17, NUMBER 9

FEATURES

Congress Strikes Again 8

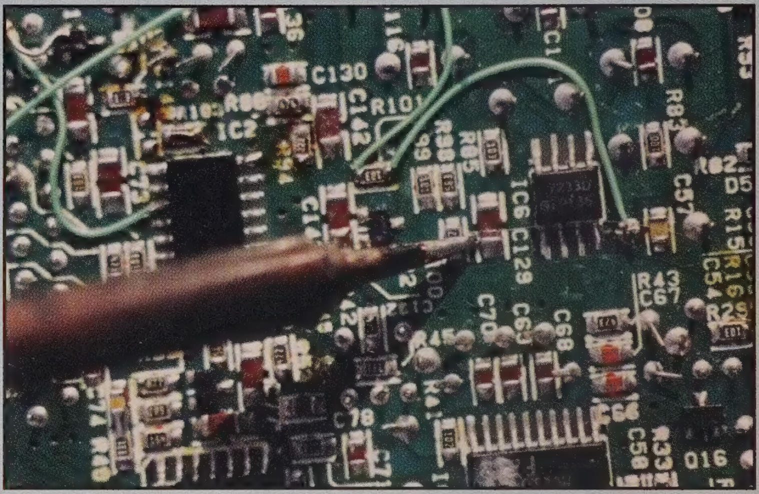
A look at the latest anti-monitoring legislation.
By John T. Ward

An Insider's Perspective On H.R. 514 10

The telecommunications industry is poised for privacy — *without* the need for anti-monitoring legislation.
By Alan Dixon

WQK: The Star In RCA's Crown 12

In 1920, this was the band blaster that one-upped everyone!
By Alice Brannigan



page 22

page 48

Clandestine Communiqué: *Angola's VORGAN Back On The Air — On Three Frequencies*....44

The Old CB Shack: *What's The Value Of That Old Rig?*....46

The Listening Post: *Argentine Antarctic Station Back On The Air — With 10,000 Watts!*....48

The Ham Column: *Get Ready For 6-Meter Action!*....53

Product Spotlight: *Uniden BC-895XLT, BC-9000XLT, And Klingenfuss'* Radiotelex Messages, 25 Years Of Monitoring Global Teleprinter And Data Communications....58

Broadcast DXing: *Radio News From Around The World And Your Neighborhood*....63

Communications Confidential: *Saying Goodbye To Old Friends*....67

The Loose Connection: *Hot Dogs, High Places, And Y2K*....80

COLUMNS

The Radio Connection: *A Boy's First Radio, And Coming Projects*....18

Radio Resources: *Success In Soldering Micro Mods*....22

ScanTech: *Tis The Season . . . For Skip — And Getting Organized*....27

The Pirate's Den: *Squeals, Parodies, And Strange Commercials In Pirateland*....33

Antennas & Things: *Build The Monopole-Vee For Low-Frequency DXing*....34

CB Scene: *More To Life Than Channel 6, And A Legislative Update*....36

World Band Tuning Tips: *Navigating International Shortwave Broadcast Bands The Easy Way*....40

DEPARTMENTS

Tuning In: *Whither REACT?*....4

Pop'Comm P.O.....6

Product Parade: *CRB's* Mind Boggling Ultimate Modification Guide (9th Edition), *Krautkremer's* Cruiser's Radio Guide (2nd Edition), *Cutting Edge's HAM-Pack, Cobra CB Extension Speakers, and MFJ's Carrying Case For Pocket Morse Code Tutor*....42

How I Got Started: *Congratulations To John McGrath Of Nevada*....45

Readers' Market....78

ON THE COVER: *Long Branch, New Jersey police officers make an arrest. Will you be a criminal if Washington legislators get their way with the latest anti-monitoring legislation, H.R. 514? See pages 8 and 10. (Photo by Larry Mulvehill)*

QUALITY COMMUNICATIONS EQUIPMENT SINCE 1942

DRAKE SW-2

- Full Coverage
- LW/MW/SW
- Sync. Detect.
- AM/LSB/USB
- 100 Memories
- 100 Hz Readout

Made in America

The **Drake SW-2** may be the best value in shortwave radio today. The SW-2 covers all longwave, medium wave (AM) and shortwave frequencies. Single sideband is easily tuned with separate LSB and USB positions. When a shortwave signal does start to fade you can engage sideband selectable synchronous tuning to stabilize and improve the signal. The nonvolatile memory system stores 100 channels. Other refinements include: RF Gain, Tuning Bar Graphs, Huge 100 Hz readout and Dimmer. Dual antenna inputs accept either a PL-259 coaxial or wire feedline. A mini earphone and ¼" external speaker jack are provided. The optional remote (shown) lets you operate this radio from across the room (*Order #1589* $48.95). All Drake receivers are proudly made in Ohio, U.S.A. and feature a one year limited warranty.

List $499.00 *Order #2222* ~~$489.95~~ **Sale $399.99** (+$7 UPS)

DRAKE SW-1

- Full Coverage
- LW/MW/SW
- Digital Readout
- Keypad Entry
- 32 Memories
- RF Gain

The **Drake SW-1** sets the stage for worldwide shortwave listening with ease, simplicity and clarity. Coverage from 100 through 30000 kHz provides solid coverage of longwave, medium wave and shortwave in the AM mode (no SSB). This makes it an ideal broadcast receiver for the desk or bed-stand. Tuning is a snap via the keypad, manual tuning knob, Up/Down buttons or 32 memories. The huge LED display features 1 kHz readout. Antenna input is via a 50 ohm terminal or SO-239 jack. A 1/8" mini jack is provided for use with earplug or headphones (not supplied). Operates from 12 VDC or supplied AC adapter.

Order #1100 ~~$249.95~~ **Sale $199.99** (+$7 UPS)

WIND-UP

The **BayGen FPR-1A Freeplay** radio combines the ingenious Baylis generator with the latest in radio technology. Winding the handle for 20 seconds provides 30 minutes of listening. Here is assured radio performance, day or night without the worry (and expense!) of batteries. The analog dial covers AM, FM and SW from 3 to 12 MHz. Made in South Africa. *#3123* **$99.95** (+$7)

The smaller **Freeplay FPR-2** model covers just AM & FM. *#3667* **$69.95** (+$6)
The **Freeplay FPR-2SM** is gray, AM & FM with solar cell. *#2413* **$79.95** (+$6)
The **Freeplay FPR-2SC** is clear, AM & FM with solar cell. *#1441* **$79.95** (+$6)

JRC NRD-545 DSP

The new **Japan Radio Co. NRD-545 DSP** is the most sophisticated receiver ever developed for the hobby market. Please call to receive full technical details and pricing on this model or the affordable **Japan Radio Co. NRD-345.**

GRUNDIG

The **Grundig YB-400PE** has a striking titanium colored case and includes a wind-up antenna, case, SW Guide and AC adapter. You get digital readout, keypad, 40 memories, SSB, two bandwidths, clock and ant. jack! Buy it from Universal and get a **FREE Lucite stand!** *#0400* **$199.95** (+$8)

UNIVERSAL M-450

The **Universal M-450v1.5** reader copies: **Baudot, SITOR, FEC-A, ASCII, SWED-ARQ** and **Weather FAX** (to printer port) plus the **ACARS** aviation teletype mode. Features a big two-line, 20 character LCD and bidirectional parallel port. Operates from 12 VDC or supplied AC adapter. U.S.A. *#0450* **$399.95** (+$8)

HUGE FREE CATALOG

The new **1999 Universal Communications Catalog** covers everything for the shortwave, amateur and scanner enthusiasts. This informative 120 page catalog is our biggest ever. Many new items are featured including the new **ICOM R-75, Grundig YB-300 PE** and **Sony ICF-SW07** receivers. This catalog is **FREE** by bookrate or $3 by Priority mail. Rising postage costs prevent us from sending this catalog out automatically so please **request your free copy today!**

- **Shortwave Receivers Past & Present** *3rd Edit.*
This huge 473 page guide covers over 770 receivers from 98 manufacturers, made from 1942-1997. Entry information includes: receiver type, date sold, photograph, size & weight, features, reviews, specifications, new & used values, variants, value rating & availability. 120 new pages. Become an instant receiver expert! *#0003* **$24.95** (+$2)

SHORTWAVE
RECEIVERS
PAST & PRESENT
Communications Receivers
1942-1997
Third Edition
By Fred Osterman

- **Passport To World Band Radio** *1999 Edition!*
Everything you need to know about when and where to hear the world! The #1 SW guide. *#1000* **$19.95** (+$2)
- **World Radio TV Handbook** *1999 Edition!*
All shortwave broadcast stations organized by country with schedules, addresses, power, etc. *#2000* **$24.95** (+$2)
- **Pirate Radio** *By A. Yoder* *With audio CD!*
Here is the incredible saga of America's underground illegal broadcasters (with audio CD). *#3038* **$29.95** (+$2)
- **Worldwide Aeronautical Frequency Dir.** *By R. Evans*
The definitive guide to commercial and military, HF and VHF-UHF aeronautical communications including ACARS. Second Edition. 260 Pages. *#0042* **$19.95** (+$2)
- **Joe Carr's Receiving Antenna Handbook**
Arguably the best book devoted to receiving antennas for longwave through shortwave. In stock. *#3113* **$19.95** (+$2)
- **Discover DX'ing!** *By J. Zondlo* *New Second Edition!*
Hear distant AM, FM and TV stations. *#0019* **$5.95** (+$2)
- **Understanding ACARS.** *By E. Flynn* *Third Edition*
Learn the ACARS aeronautical format. *#0012* **$9.95** (+$2)

☞ *Please add $2 per title for surface shipping.*

Universal Radio, Inc.
6830 Americana Pkwy.
Reynoldsburg, Ohio
43068-4113 U.S.A.

☎ 800 431-3939 Orders & Prices
☎ 614 866-4267 Information
📠 614 866-2339 FAX Line
💻 dx@universal-radio.com

universal radio inc.

www.universal-radio.com

- Visa
- MasterCard
- Discover

- Prices and specs. are subject to change.
- Returns subject to a 15% restocking fee.
- Used equipment list available on request.

BY HAROLD ORT, N2RLL, SSB-596

Tuning In

AN EDITORIAL

Whither REACT?

By Jock Elliott

Editor's Note: *"CB Scene" co-columnist, Jock Elliott got my attention about 9:01 this morning by taking the last chocolate donut, then he asked if we could talk about something that was on his mind. Sure, Jock, let's talk! It's no secret that volunteer monitoring of CB emergency Channel 9 isn't what it used to be, but why? This month the editorial pen belongs to Jock. As usual, we invite your comments.*

It started out as an extraordinarily neat idea that people in trouble on the highways (and elsewhere) could pick up their CB microphones and summon help on Channel 9.

It began in 1959, when Roy Freeland, president of International Crystal Manufacturing. Company approached Tom Kneitel (that's right: *Pop'Comm's* own Senior Editor) who was then writing a monthly CB column in a national electronics magazine. Freeland wanted Kneitel to publicize that Channel 9 was to be used by travelers for emergencies. Kneitel thought it was a great idea, and together they began pushing Channel 9 as the emergency channel.

In 1962, Henry B. "Pete" Kreer convinced Hallicrafters to sponsor REACT (Radio Emergency Associated Citizens Teams). By 1964, some 800 REACT teams were voluntarily monitoring Channel 9 as an emergency channel, and in 1965 REACT formally adopted Channel 9 as its official monitoring channel. After some prodding and pushing by Freeland, Kneitel, REACT, and others, the Federal Communications Commission finally adopted Channel 9 as the national emergency channel in 1970.

In the meantime, the idea of monitoring to help others in emergencies had struck a responsive chord in the CB community. By the time the third REACT International Convention was held in Ohio in 1978, REACT had some 74,000 members.

REACT is an organization that deserves a public "thank you." Over the years, tens of thousands of volunteers have spent millions of hours monitoring CB Channel 9, saving countless lives and millions of dollars in property. In short, REACT made itself famous and successful by being the premier organization that monitors the radio for people in trouble.

By doing so, REACT has achieved something that most marketing people would die for: brand recognition. Brand recognition is that unconscious thing that makes you reach for one brand of soda over another or vote for one candidate over another. It's the reason that marketers spend zillions on advertising — to burn a brand impression into your mind.

Through the selfless efforts of its members, REACT, too, has brand recognition. When something godawful happens on the highway, you can bet your bottom dollar someone will pick up a CB microphone and ask, "Is there a REACT station out there?"

Unfortunately, with increasing frequency, the answer is "No." REACT membership has dropped to 5,000 — less than one-tenth of what it once was. And despite the steadfast efforts of many of the members, there are entire teams — large teams — that no longer monitor Channel 9 or *any* frequency for people in trouble. I think this is because the leadership of REACT no longer insists that emergency monitoring is the organization's primary mission.

So even though REACT's ads in *Pop'Comm* say, "As a REACT volunteer CB radio monitor, you may be the only communications lifeline for someone in serious trouble," the topmost levels of the organization seem to have forgotten the thing that made it famous.

But all is not lost. I believe that REACT can still capitalize on its brand recognition and once again position itself as *the* nationwide organization that monitors CB, GMRS, marine VHF, the aircraft distress frequency, and the ham two-meter calling frequency for people in trouble.

And while it is great that many people have access to cellular phones, many people do not. In addition, in dire, widespread emergencies, cell phone networks frequently overload and become useless. There remains a need for dedicated emergency communications monitors.

The leadership of REACT needs to put its full weight behind this initiative, with a compelling mission statement and a requirement that all teams monitor at least some emergency channels as often as possible. Further, REACT can become a leader in helping people to understand and take advantage of changing rules in the General Mobile Radio Service. If it does so, it wouldn't surprise me to see REACT win *another* President's Volunteer Action Award.

I hope REACT will see the wisdom of returning full-force to its original intent, because nationwide emergency monitoring is truly a vital mission that needs a national organization to promote it. In July, REACT International will meet at a convention to consider its future direction. I wish the members Godspeed in their deliberations. ■

POPULAR COMMUNICATIONS

EDITORIAL STAFF

Harold Ort, N2RLL, SSB-596, Editor
(Internet e-mail: PopularCom@aol.com)
Tom Kneitel, K2AES/SSB-13, Senior Editor
(Internet e-mail: K2AES@juno.com)
Edith Lennon, N2ZRW, Managing Editor
Alycia Nicholsen, Assistant Editor
Richard S. Moseson, W2VU, Online Coordinator
(Internet e-mail: W2VU@amsat.org)

CONTRIBUTING EDITORS

Richard "RD" Baker, Utility Communications
Ed Barnat, TCA-44, CB SSB
Peter J. Bertini, K1ZJH, Restoration/Electronics
Joe Carr, K4IPV, Antennas
Bruce Conti, AM/FM Broadcasts
Joseph Cooper, Projects and Broadcast Band
Gerry L. Dexter, Shortwave Broadcast
Jock Elliott, SSB-734, Citizens Band
Bob Evans, ACARS
Ed Griffin, Computer-Aided Radio
Kirk Kleinschmidt, NT0Z, Amateur Radio
Don Patrick, CB Restoration
Ian Poole, SW Broadcasting
Bill Price, N3AVY, Humor/Communications
Ken Reiss, Technical/Scanning
Edward Teach, Pirate and Alternative Radio
J.T. Ward, Scanning
Gordon West, WB6NOA, Radio Resources

BUSINESS STAFF

Richard A. Ross, K2MGA, Publisher
Donald R. Allen, W9CW, Advertising Mgr.
Emily Leary, Sales Assistant
Sal Del Grosso, Accounting Manager
Ann Marie DeMeo, Accounting Department
Judith Erickson, Office Manager
Catherine Ross, Circulation Manager
Melissa Gilligan, Operations Manager
Jean Sawchuk, Data Processing
Denise Kells, Customer Service

PRODUCTION STAFF

Elizabeth Ryan, Art Director
Barbara McGowan, Associate Art Director
Edmond Pesonen, Electronic Comp. Mgr.
Dorothy Kehrwieder, Production Manager
Emily Leary, Assistant Production Manager
Hal Keith, Technical Illustrator
Larry Mulvehill, WB2ZPI, Photographer

A publication of

CQ Communications, Inc.
25 Newbridge Road
Hicksville, NY 11801-2953 USA

Offices: 25 Newbridge Road, Hicksville, NY 11801. Telephone (516) 681-2922. FAX (516) 681-2926. Web Site:<http://www.popcomm.com/> Popular Communications (ISSN-0733-3315) is published monthly by CQ Communications, Inc. Periodical class postage paid at Hicksville, NY and additional offices. Subscription prices (payable in U.S. dollars): Domestic—one year $25.95, two years $45.95, three years $65.95. Canada/Mexico—one year $35.95, two years $65.95, three years $95.95. Foreign Air Post—one year $45.95, two years $85.95, three years $125.95.

U.S. Government Agencies: Subscriptions to Popular Communications are available to agencies of the United States government, including military services, only on a cash with order basis. Requests for quotations, bids, contracts, etc. will be refused and will not be returned or processed.

Entire contents copyright © 1999 by CQ Communications, Inc. Popular Communications assumes no responsibility for unsolicited manuscripts, photographs, or drawings. Allow six weeks for change of address or delivery of first issue.

Printed in the United States of America.

Postmaster: Please send change of address to Popular Communications, 25 Newbridge Road, Hicksville, NY 11801.

The LITTLE Black Box with BIG Performance!

OPTOCOM SETS THE STANDARD......

Combining a high speed, high performance receiver, Motorola®/LTR Trunking, and full featured decoding.

OPTOCOM
OPTOELECTRONICS / GRE COMMUNICATIONS RECEIVER
PHONE
POWER
DATA
SQUELCH
SQUELCH
VOLUME
OPTOELECTRONICS

Computer
Not Included

INTRODUCTORY PRICE

$459

FREE Trakkstar Software
& Shipping

Order Now! Save $90

CHECK OUT THESE FEATURES

- High speed triple conversion GRE receiver board (50 channels per second)
- Track Motorola 400MHz, 500MHz, 800MHz, and 900MHz systems, as well as conventional frequencies, simultaneously
- Decode CTCSS, DCS, LTR, DTMF, and Motorola talk group ID
- Reaction Tune with the Scout Frequency Recorder
- Built-in Data Slicer Circuit for decoding of FSK programs
- Software and hardware controlled volume and squelch
- Download up to 28 different frequencies or one Talk Group ID for scanning without the computer
- Supplied with the all NEW TRAKKSTAR software from ScanStar
- Trunk Track LTR systems
- Scans conventional frequencies from 25-520, 760-823.995, 849.005-868.995, 894.005-1300MHz (Cellular frequencies are blocked except for FCC approved users)

NOW TRACKS EDACS™ WITH THIRD PARTY SOFTWARE

Flexibility

Built-in data slicer circuit for decoding of popular FSK programs.

Portability

For use without the computer, download up to 28 different frequencies or one talk group ID for mobile applications.

CC50 Carry Case
Holds OptoCom & Laptop
Computer.................$25

FACTORY DIRECT ORDER LINE 800-327-5912

OPTOELECTRONICS®

5821 NE 14th Avenue • Ft. Lauderdale, FL • 33334
Telephone: 954-771-2050 Fax: 954-771-2052 Email: sales@ optoelectronics.com
Prices including Promotions and Specifications are subject to change without notice or obligation

www.optoelectronics.com

**Shipping UPS Ground, continental U.S. only
OPTOCOM supplied with Software, Antenna & Cables. Operates under Windows 3.1, 3.11, 95, and 98

CIRCLE 131 ON READER SERVICE CARD

Pop'Comm P.O.

LETTERS TO THE EDITOR

Each month, we select representative reader letters for our "Pop'Comm P.O." column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid E-mail address. Upon request, we will withhold a sender's name if the letter is used in "Pop'Comm P.O." Address letters to: Harold Ort, N2RLL, SSB-596, Editor, *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801-2909, or send E-mail via the Internet to <popularcom@aol.com>.

Ready, Set, Type!

Dear Editor:

I just wanted to say I think your magazine is pretty good, but regarding the letter from Mr. Ponzio, I think he is almost right. If you don't like CW, don't use it, but everyone should stop whining. If someone is into the hobby, take it like it is. If someone doesn't like the code, they should have thought of that before getting into the hobby, not try to change it afterwards. You don't see it happening in other hobbies.

I have been trying to pass my 13 wpm for two years and it is hard, but I really don't like packet so why should I test on it? Thanks for listening.

Bob Williams, WB0NRD

Dear Bob:

Thanks for your letter and ideas. I'm glad you brought up the point about testing on packet. The answer, of course, is, simple: you don't have to! But interestingly, from my observations on packet, perhaps there should be a typing test of some sort for amateurs wanting to use packet. It's certainly relevant, don't you agree? Frankly, it doesn't help my blood pressure waiting for someone to single-finger-peck out two or three lines on their keyboard when I could have typed two paragraphs. Then again, they don't have to listen to my dits and dahs either. It might not be fair, and it probably wouldn't be easy for many folks to learn how to type more than a handful of words a minute, but like they say, "If I can do it, so can they."

The Sneak Preview

Dear Editor:

First, let me compliment you on the *Pop'Comm* Webpage — it's a great service to us all to get a "sneak preview" of what's upcoming. I really enjoy the online articles, "Hot Topics," and other related information.

73 from Vermont.

Pete, KC1CO

Dear Pete:

We're glad you like the Website. You also addressed a couple of technical issues about the site which have since been corrected. We've got lots of neat things planned for our new site at <http://www.popular-communications.com>, so stay tuned.

Right There In Black And White

Dear Editor:

I've been a CBer (and ham) for years and have a question. Where is it *written* that Channel 19 is the trucker's channel? I can't find it written in the FCC's rules.

Jerry Leonard
Milwaukee, Wisconsin

Dear Jerry:

It's right there in your letter.

Because It's A Hot Issue!

Dear Editor:

I cannot believe that the issue of code vs. no-code is still going on, and *Pop'Comm* is devoting space to it. In short, there is not going to be a no-code HF license in the USA until the international agreement changes and that will not be for a few years, OK? So let's end the code vs. no-code HF license arguments until then. Thanks.

If you want to discuss LOW code, it appears that it is a non-issue also. It would seem there will be a general reduction of code speed requirements for HF access with the next round of FCC specifications which will probably take effect in about a year.

If you want to argue something, argue how to rid the 10-meter ham band of illegal CB operators using those President Lincoln transceivers.

Joel, K1QM

Dear Joel:

Obviously, the code issue has been a hot potato for many years. We devote space to reader's letters — such as yours — that relate to these timely issues, of which the code vs. no-code is certainly one. But like I've said before, the mere reduction in code for access to HF (as you observed with your comment " . . . LOW code. . .") has no bearing on good operator/bad operator, responsible ham/irresponsible ham — nor is it, as many suggest, a way to keep undesirable characters off the air. Just look at 20, 40, and 80 meters. Joel, those guys aren't CBers with President Lincoln rigs!

Wanna Bet?

Dear Editor:

I have read your column since it began and enjoy it very much. I am an amateur radio operator, having just got my license last month as a no-code technician. As far as Morse code is concerned, I figure I can do without it. I already talk on HF frequencies without it, and you can't guess which band it is.

Sincerely,
Butch

Dear Butch:

I read your letter to Bill Price at the next desk, and after giving it two seconds of thought, he guessed it's the band between 10 and 12 meters. If he's wrong, he buys me lunch. If he's right, he still buys me lunch.

Remembering Mildred Gillars

Dear Editor:

In regard to Alice Brannigan's "SWLs — WWII's Homefront Heroes" article in

(Continued on page 76)

AOR
LAMP
BANK
SC/SE
PASS
POWER
SET
Wide Ranger
AR16

Roll Over, Marconi!

Pocket sized, computer programmable* and coverage from 500 KHz to 1.3 GHz.**

AOR introduces a new Advanced Technology Receiver™, the AR16B Wide Ranger.™

- Wide band frequency coverage (0.5~1300MHz**)
- 21 Preset frequency band settings
- WFM, NFM, and AM modes
- 500 memory channels (5 banks x 100 ch.)
- Low Power Consumption (uses two AA batteries)
- Voice de-scrambling function
- Automatic squelch settings
- Monitor function to receive weak signals
- Built-in S-meter
- Multiple operating profiles
- Backlit keypad and display
- Twelve channel steps

*separate computer program required

**Cellular frequencies blocked

Don't let its small size deceive you. The AR16B is a full-fledged AOR receiver from top to bottom, with 500 memory channels, Narrow FM, Wide FM and AM modes and loud, clear audio.

Includes 2 Ni-MH batteries (1300 mAH capacity) and overnight charger.

Now you can follow the action wherever you go. The AR16B is ready to travel with you!

AOR is redefining what is possible in wide-range multiband receivers. Be sure to check out the new AR8200B, the AR7000B and other AOR products at http://www.aorusa.com

Actual size

Discover AOR, The Serious Choice in Advanced Technology Receivers℠

CIRCLE 156 ON READER SERVICE CARD

AOR U.S.A., Inc. • 20655 S. Western Ave. • Suite 112 Torrance, CA 90501
310-787-8615 Phone • 310-787-8619 Fax • www.aorusa.com

AOR™

Congress Strikes Again

The Latest Anti-Monitoring Legislation . . .

By John T. Ward

The latest salvo in Congress' war on scanner listeners was fired on February 3, when Rep. Heather Wilson (R-New Mexico) filed the Wireless Privacy Enhancement Act of 1999. The bill (H.R. 514) is not a complete surprise as it is virtually a copy of H.R. 2369, filed last year by Rep. Billy Tauzin (R-Louisiana). When that bill died in the Senate, Tauzin vowed to raise the issue again this session. What *is* surprising is the apparent importance placed on passing the bill this year. H.R. 514 was the *first* bill considered during the first meeting of the House Subcommittee on Telecommunications, Trade, and Consumer Protection. What's not surprising is that none of the witnesses called to testify during a subcommittee hearing were representatives of the scanner manufacturers or the hobby radio community. Congress has been explicitly disinterested in what we have to say on this issue, preferring instead to get their "facts" from representatives of the cellular telephone industry. This appears to be an attempt to ram this bill through before scanner users have a chance to organize any resistance.

While much of the bill duplicates existing law prohibiting the intentional interception of cellular telephone calls, or extends that prohibition to include digital cellular and Personal Communications Services, one section of the bill could potentially prohibit scanner manufacturers from ever building a scanner capable of receiving digital public safety communications.

The bill, in part, reads:

(1) PRIVACY PROTECTIONS REQUIRED — The Commission shall prescribe regulations, and review and revise such regulations as necessary in response to subsequent changes in technology or behavior, denying equipment authorization (under part 15 of title 47, Code of Federal Regulations, or any other part of that title) for any scanning receiver that is capable of —

(A) receiving transmissions in the frequencies that are allocated to the domestic cellular radio telecommunications service or the personal communications service;

(B) readily being altered to receive transmissions in such frequencies;

(C) being equipped with decoders that —

(i) convert digital domestic cellular radio telecommunications service, personal communications service, or protected specialized mobile radio service transmissions to analog voice audio; or

(ii) convert protected paging service transmissions to alphanumeric text; or

(D) being equipped with devices that otherwise decode encrypted radio transmissions for the purposes of unauthorized interception.

While any law that forces scanner manufacturers to block additional frequencies is disturbing, in reality it will have little impact on most scanner users since no current scanner can receive digital cellular or PCS communications. Basically, they're taking away something we don't have anyway.

"What is surprising is the apparent importance placed on passing the bill this year."

The really dangerous wording here is *"convert digital domestic cellular radio telecommunications service, personal communications service, or protected specialized mobile radio service transmissions to analog voice audio."*

Just what is a "protected specialized mobile radio service?" Well, the bill says "the term 'protected' means secured by an electronic method that is not published or disclosed except to authorized users, as further defined by Commission regulation."

Boy, that's clear as mud, isn't it? Could digital public safety systems, such as Motorola's ASTRO and Ericsson's EDACS, be protected? Despite assurances that the bill isn't designed to prevent the public from monitoring police, fire, EMS, and other governmental agencies, it sure looks like the digital SMR public safety systems could fall under the bill's blanket protections.

Luke Rose, an aide to Congresswoman Wilson, said the definition is purposefully broad so that it may encompass future technologies. "We don't want Congress

"This appears to be an attempt to ram this bill through before scanner users have a chance to organize any resistance."

to have to come back to this issue every few years as technology changes," Rose said. "Wording in the committee report that will accompany the bill will make it clear that Congress' intent is not to ban scanners capable of receiving public safety communications," he said.

A draft of the report language was not available by press time, but it's expected to be similar to language in the report that accompanied H.R. 2369. That report read, in part:

" . . . Section 2511(g) provides a number of broad exemptions for the interception by private parties of radiocommunications, including those that are transmitted over (a) a system configured for ready access by the general public; (b) by any station for the use of the general public, or that relates to ships, aircraft, vehicles, or persons in distress; (c) any governmental, law enforcement, civil defense, private land mobile, or public safety communications system that is readily accessible to the general public; (d) by any station operating in the amateur, citizens band (CB); and (e) by any marine or aeronautical communications system.

"Because the Committee preserved the Chapter 119 exceptions in its amendment of Section 705(a) of the Communications Act, the Committee does not intend for the (Federal Communications) Commission or any other enforcement agency to investigate or fine parties for the interceptions authorized by Chapter 119. Therefore, the Committee does not intend for the uses of scanning receivers and receiving radios, such as shortwave radios, that are consistent with the Section 2111(g) exceptions to be investigated or fined under Section 705(a)."

On its face, this looks pretty good, but here we have the wording "c) any governmental, law enforcement, civil defense, private land mobile, or public safety communications system that is readily accessible to the general public;" with no clear definition of "readily accessible to the general public." Are digital trunked systems "readily accessible to the general public?" Not now, since there are no scanners capable of monitoring such systems. The broad wording in H.R. 514 makes it questionable whether Uniden, Tandy, and others will ever be able to manufacture such a radio. ■

We Have Scanners with 800MHz Coverage!

ICOM R9000, R8500, PCR1000, PCR100, R100, R10, R2
Yupiteru MVT-9000, MVT-7100, MVT-8000
AOR AR-5000, AR-5000+3, AR-3000, AR-8200
OPTOELECTRONICS Xplorer, R11 (Nearfield Receivers)
WiNRADiO WR-1000i

New Icom R-10 Wide Range Receiver
500KHz~1300MHz coverage AM/NFM/WFM/USB/LSB/CW
1000 Memory Channels (18 x 50 and 1 x 100)
Computer Interface • Selectable Step Size

All U.S. Orders Shipped Air

Welz/Standard WS2000
.5-1300MHz 800 Memories
Almost the size of a Pager
Amazingly Low Price.

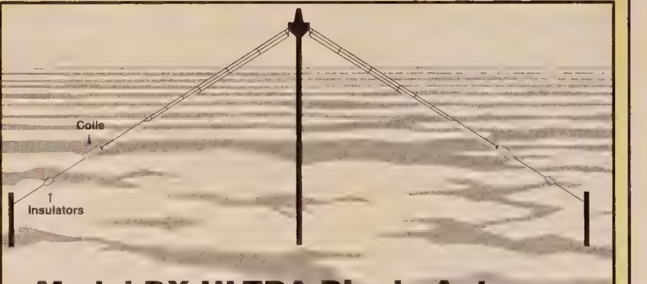
ATLANTIC HAM RADIO LTD
(416) 636-3636 ahr@interlog.com
(416) 631-0747 fax
www.interlog.com/~ahr/scan.htm
368 Wilson Ave
Downsview, ONT
Canada M3H 1S9

Sunspot Cycle 23 Is On The Rise!

Imagine . . .

A shortwave antenna so good you won't need or want any other type of antenna system!

With the ALPHA DELTA Model DX-ULTRA Full Spectrum Dipole you don't have to imagine anymore! We designed it for "knock-your-socks-off" performance with an absolutely no-compromise attitude — with full frequency access from AM Broadcast through 30MHz!



Model DX-ULTRA Dipole Antenna

- Absolutely remarkable performance for Medium Wave, Tropical, International Shortwave, Government, Military, Embassy, Maritime, Aircraft, Commercial and all other Utility communication frequency ranges.
- The DX-ULTRA design provides extremely low-noise performance for maximum sensitivity to weak DX signals.
- The wire elements' "Tapered Wing" design allows broadband operation on 1/2 wavelength and 3/4 wavelength multiples of various frequency ranges.
- The DX-ULTRA is designed with a pair of ISO-RES inductors and parallel wire elements for maximum broadband, efficient performance - no lossy narrowband traps. The difference on your S-meter can be phenomenal!
- Our exclusive Model DELTA-C Center Insulator with the built-in Model SEP ARC-PLUG® Static Electricity Protector provides effective protection for your sensitive receiver components. Connectors accept either coax or balanced line.
- Overall length of the DX-ULTRA is only 80 feet with dipole, inverted-vee, or full sloper configurations possible!
- Fully assembled - no cutting or soldering required. All components are rated for 2kW of power with all stainless-steel hardware. Can be used with a wide-range antenna tuner for commercial, military, or embassy operation.
- The DX-ULTRA is designed specifically for full spectrum shortwave performance, not just for the narrower amateur or international shortwave bands.

Alpha Delta Model DX-ULTRA, 80 ft. in length $119.95

If your space does not permit the full 80 ft. length of the DX-ULTRA, we suggest our Model DX-SWL 1/4 wave sloper (60 ft.) or our DX-SWL-S 1/4 wave sloper (40 ft.). These antennas have similar design philosophies.

At your Alpha Delta dealer or add $5.00 for shipping and handling in the continental United States. Export orders - please call

Toll-Free Order Line 888-302-8777

ALPHA DELTA COMMUNICATIONS, INC.
VISA MasterCard
P.O. Box 620, Manchester, KY 40962
Phone (606) 598-2029 • Fax (606) 598-4413
Alpha Delta - Where Imagination And Reality Merge

An Insider's Perspective On H.R. 514

By Alan Dixon, N3HOE

The Telecommunications Industry Is Poised For Privacy — Without *The Need For Anti-Monitoring Legislation . . .*

Editor's Note: Alan Dixon is a telecommunications engineer in the cellular industry and has participated on the Telecommunications Industry Association (TIA) committee that sets digital encryption standards.

In the past year, substantial progress has been made toward making cellular digital encryption voice privacy a reality for consumers. This brings me to the news at hand. If I hadn't seen it actually happen, I never would have believed it. The proposed Wireless Privacy Enhancement Act is back to haunt us again, this time as H.R. 514. When no Senate version of the former H.R.-2369 materialized by the adjournment of the last session of Congress, it was obvious to me that the issue was dead. In fact, I had started to write an epilogue to my January 1998 *Pop'Comm* feature article on communications privacy, prognosticating little likelihood of the bill being resurrected in the new Congress. Good thing I held my tongue (or pen)! How wrong I was.

Unnecessary Legislation — Again

Considering that nearly every digital cellular and PCS handset in current use is, and has been for some time, ready for voice encryption, the new bill is entirely unnecessary. Few consumers are aware of this fact. The only thing standing in the way of full functionality is software upgrades to cellular network infrastructure, many of which are now complete. As soon as cellular and PCS providers decide to market this new "value-added" service, millions of existing subscribers with their *existing handsets* will **instantly have voice privacy encryption as a selectable feature.** And, you would be surprised to learn what encryption features your old "analog" phone has. Most authentication-capable analog cellular phones have existing capabilities for signaling message encryption (SME). This feature provides for digitally encrypted transmission of calling party automatic number identification to the user's phone as well as encrypted DTMF transmitted from the user's handset. Encrypted touch-tones are useful for using a credit card, to make purchases over the phone, or to access an alternate long distance carrier with a calling card.

I can't imagine why any party in the wireless telephone business would want to see a bill like H.R. 514 enacted. It's just poor business practice. At best, from an industry perspective, this bill would have no effect whatsoever. Monitors would continue to monitor. And cellular subscribers would continue to be deluded into a false sense of security about their comms. At worst, from the same perspective, such a law would stymie customer response to presumably costlier, optional encryption features. Further, the law would function as a disincentive for analog users to migrate to the more profitable digital technology. As the regional cellular and PCS networks are being uploaded with new voice encryption software, *the industry is poised to jump into the market at any time.* Wireless carriers will be test marketing voice and messaging privacy in major markets by the time you read this article!

So why this new privacy bill in the House? And why was it railroaded through Committee at lightning speed? Given this year's imminent rollout of enhanced voice privacy services, the possible motivating factors behind H.R. 514 and last year's identical H.R.-2369, become a bit clearer. Scanner users and monitoring hobbyists may not be the object of the bill, at least not directly, after all. As we have seen, the bill is not likely to offer any meaningful benefit to the wireless telecommunications industry either. With the end of President Clinton's murky impeachment trial, Congress may have been looking for a few quick, politically correct, smile-button acts that look good in press releases, appear at a glance to offend few, and are a sure bet to pass through Congressional chambers swiftly, or at a minimum, die quietly with little notice. To this end, H.R. 514 is a real winner. On the face of it, who would object to protecting one's privacy? It is little wonder H.R.-2369 slid through the House last spring.

> ***"H.R. 514 is very tricky. One cannot read it as a stand-alone document and have any serious idea what it is saying."***

H.R. 514 Is Very Tricky!

So why does the House Telecommunications subcommittee keep hammering on the cellular privacy issue given the state of the art today? A clue may be found in the proposed bill's language. H.R. 514 is very tricky. One cannot read it as a stand-alone document and have any serious idea what it is saying. This is due to the "cut-and-paste" method in which it is written. The bill references various portions of three sections of the United States Code (47 USC §§302,605; 18 USC Ch.119 [ECPA]) and one part of the Code of Federal Regulations (47 CFR 15). The

"... every digital cellular and PCS handset in current use is, and has been for some time, ready for voice encryption, the new bill is entirely unnecessary. Few consumers are aware of this fact."

proposed changes are described in terms of substituting a new word or phrase for an existing one; an "or" for an "and" and such. To get the full context of the bill, it must be read alongside the sections of existing law that it is purposed to change. Just look at the language of H.R. 514 and imagine how easy it would be for a busy Congressman to vote for passage based solely on the abstract verbiage and the non-binding Committee report.

But it gets more convoluted than that. Possibly the most disturbing change to be made by this Congressional action is a most fundamental change to the long-standing Section 705 of the Communications Act (47 USC §605). This was, and is, the premiere radio communications privacy law. Since 1934, this statute allowed for virtually unrestricted reception of wireless transmissions under nearly any circumstances. The prohibition here was on divulging or publishing what was heard. To run afoul of the law, one had to both *intercept* and *divulge* what was monitored.

Now imagine what would happen if an unscrupulous person monitored the cellular phone conversations of a rival political party (sound familiar?), then gave the information to a newspaper that subsequently published the squalid details. The rival political party is hopping mad. The eavesdroppers in this example would likely be prosecuted since they not only listened in; they couldn't keep a secret either. However, under existing Section 705, it appears the newspaper may be off the hook. Newspapers are not in the business of keeping secrets, yet it seems as long as they were not the *person* doing the monitoring, no problem! (Nonetheless, don't try this yourself.) What self-respecting politician would stand for letting the press get away with publishing such illicitly obtained material, with apparent impunity. The political waters are getting a bit less muddy now. Think. Who is the scapegoat here, and who is this new bill intended to protect?

H.R. 514 is a true double-edged sword. Proposed changes to Section 705 are literally the half of it. The bill goes on to attack digital modulation modes, threatening to ban manufacture of scanners capable of digital cellular, PCS, and *protected* Specialized Mobile Radio (SMR) service reception. The stratagem here concerns what constitutes "protected" and "SMR." *Protected* may refer to SMR operators who offer Commercial Mobile Radio Services (CMRS), that is, cellular-like services connecting to the public switched telephone network. Or it may be in the context of licensed Intellectual Property Rights (IPR), such as SMR networks using proprietary digital modulation schemes. Frankly, what defines "protected" in this passage of H.R. 514 is anyone's guess at this point.

SMR Services

What is clearer is the definition of SMR services. SMR properly refers to commercial trunked radio systems, often in the 800-MHz band. A common misconception is that trunked 800-MHz public safety systems are also SMR systems. Not so. FCC regulations define SMR as a "A radio system in which licensees provide land mobile communications services (other than radiolocation services) in the 800 MHz and 900 MHz bands on a commercial basis to entities eligible to be licensed under this part, Federal Government entities, and individuals." (47 CFR §90.7). There is, of course, another catch here. Public safety trunked radio systems are obviously not commercial. Therefore, logically, no prohibition against monitoring trunked public safety comms, digital or otherwise, is posed by H.R. 514. Or is there? What happens when public safety entities, or Federal agencies as given by example in the SMR definition above, use commercial facilities rather than operate their own radio dispatch systems? This ill-conceived bill harbors a major dichotomy since it specifically allows monitoring of public safety comms (ref. 18 USC [Ch.119] §2511(2)(g)(ii)(II)), yet effectively bans monitoring most commercial digital services.

Then there is the matter of shared frequency usage by both SMR and trunked public safety systems. Here, the originators of H.R. 514 exercised a modicum of discretion by placing this curious aspect into the hands of the FCC, where folks understand radio transmission. Scanner users may well have better response from the "reinvented" customer-friendly FCC than from the dusty halls of Capitol Hill.

The question remains though, if scanners for commercial digital SMR technology are banned, will that also by default ban scanners for digital public safety radio systems, since both are digital trunked systems? No. At least not ultimately. The nation's leading CMRS SMR operator utilizes a vendor-proprietary technology for digital modulation and switching. Although the handful of digital public safety systems in existence at the present time use a variety of emerging technologies, the new APCO-25 standard will soon define digital public safety radio in North America. Any universal standard, such as APCO-25 or Europe's TETRA digital public safety radio standard, are by default open architecture, IPR rights, licensing, etc. notwithstanding. Hence, the problem of protecting SMR privacy on shared public safety frequencies should be simple. Even if any two such systems used identical vocoding and modulation techniques, the network switching and sync timing would have to be exactly the same to enable speech decoding, call following, and unit identification.

From any perspective from within the telecommunications industry, H.R. 514 is unnecessary and burdensome to carriers and equipment manufacturers alike. ■

POWERPORT
HOLD-IT
WORLD PACK!
HMP
$57.95
HI-D1
$19.95
HI-B
$19.95
HMP
$19.95 HI-PRO
HI-H
$19.95
$57.95
Tough backpack designed to fit the ICOM-706 or Yaesu FT-100 mobile radios. Waterproof padded nylon construction with room for power supply & antennae. Small enough to qualify as carry-on luggage. Whether you're boarding a plane as an emergency responder, or just taking a vacation— carry the world on your back!

ORDERS 800: 206-0115
CUTTING EDGE ENTERPRISES
1803 MISSION, #546 SANTA CRUZ CA 95060
all other inquires 831: 429-5384 e-mail cee@cruzio.com

CIRCLE 65 ON READER SERVICE CARD

WQK: The Star In RCA's Crown

In 1920, This Was The Band Blaster That One-Upped Everyone!

By Alice Brannigan

There are many fast-food emporiums, but it was the **Big Mac** that allowed McDonalds to come out on top. Seventy home runs in a single season made Mark McGwire a standout in a galaxy of baseball super-heros. It was telegraph station WQK, also known as **Radio Central**, that put a lock on RCA's Communication prestige and leadership in the world of international wireless communications. It remained there as long as the company competed in that field.

We have briefly mentioned **Radio Central** in previous issues. Even so, we continue to receive regular inquiries about the interesting facility. Just this week, one arrived from Scott Guthrie, Rockwood, Ontario. Because WQK had ties to station WGG, Tuckerton, New Jersey (March '99 issue), this seemed an appropriate time to give **Radio Central** a close look. You may recall that when Germany's HOMAG Company built longwave station WGG in 1912, it ran 100 kW and was the most powerful wireless station in the U.S. The facility was purchased by RCA in 1920. RCA then increased the station's power to 200 kW and added a second transmitter, WCI. WGG/WCI could reach Europe without a relay station.

The powerful Tuckerton facility had been purchased because, in 1920, newly formed RCA was entering a market rapidly filling with companies eager to get the biggest share of the burgeoning and lucrative postwar (World War I) communications market. Under the direction of General Manager Gen. David Sarnoff, RCA took an aggressive approach. In addition to owning the choice WGG/WCI transatlantic facility, RCA decided to construct a unique state-of-the-art communications station offering worldwide coverage. He knew it would be a prestigious showcase that would attract international attention and media coverage to RCA's services. This was to be known as **Radio Central.**

Radio Central

Radio Central's transmitting site was a 6,400 acre tract (10 square miles) at Rocky Point, New York, on Long Island's north shore, 70 miles east of New York City. The receiving site was 16 miles even further east, in Riverhead, not far from Long Island's eastern end. Construction began in July, 1920, and the first test signals were sent in October, 1921. A construction force that varied daily from 100

One of the 410-foot towers at Radio Central. There were 72 of these!

Radio Central's first transmitter building, ← constructed in 1920.

Get It Firsthand With Drake World Band

The Finest Line of Products For The Shortwave Enthusiast.

R8B Communications Receiver

SW8 Worldband Receiver

SW2 Shortwave Receiver

SW1 Shortwave Receiver

Drake's current line of world band communication receivers continues its history of excellence. Drake has something for everyone - regardless of skill or interest level.

For the avid enthusiast - the top of the line R8B offers serious performance with Selectable Sideband Synchronous Detection and five built-in filters. For the listener on the go, the SW8 provides all the advanced features of a table top unit, but is completely portable. Expensive taste with a small budget? The SW2 fits the bill. The SW2 boasts expensive features like Selectable Sideband Synchronous Detection, 100 programmable memories, and an optional infrared remote control - all at an inexpensive price. Just getting started? The SW1 is perfect for the beginning hobbyist. User friendly operation lets you pull in AM broadcasts from the far corners of the world.

Whatever your level of interest, you'll appreciate the craftsmanship, quality and performance that is built into every Drake communications receiver.

Order Now Risk Free!
15 Day Money Back Trial.

We are so confident you'll be impressed with the performance of our radios, we'll give you a full refund on your factory direct order, less shipping charges, if the receiver doesn't meet your expectations. Call for complete details.

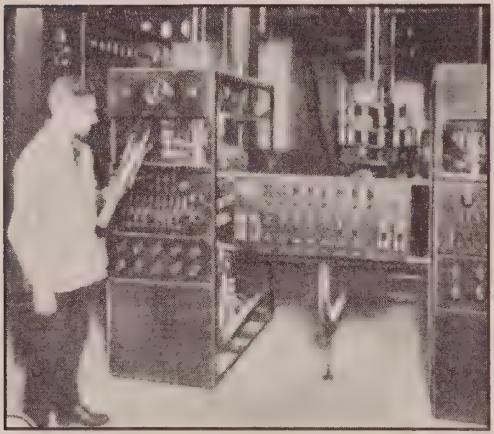
Order Today, From Your Local Dealer or Factory Direct By Calling 1-800-937-2531.

CIRCLE 16 ON READER SERVICE CARD

R.L. Drake Company 230 Industrial Dr. Franklin, OH 45005 U.S.A.
phone 513-746-4556 **fax** 513-743-4510 **on-line** www.rldrake.com

DRAKE

In 1920, the main antenna relay switchboard looked like this. It was remotely controlled from New York City, but could be manually controlled locally if necessary.

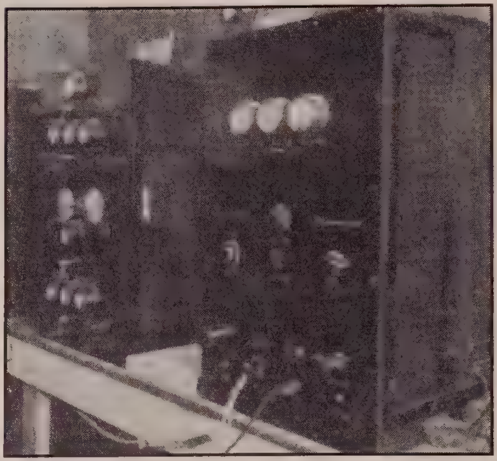


A transmitter used for overseas telephone calls at Radio Central in the early 1930s.

to 250 was required. Considering the amount of work involved, they worked quite fast.

This huge site allowed for a massive super-antenna system. A dozen separate directionally oriented antenna arrays assured the ability to deliver signals to any area of the world or specific nation, regardless of its direction or distance from Rocky Point.

The first 12 in-line tower groupings (which supported two arrays) used 1,800 tons of structural steel. Each tower was 410 feet in height with a cross arm at the top, 150 feet across, and weighed 150 tons. The foundations of the 12 towers required 8,200 tons of concrete. The base of each tower leg was sunk nine feet below ground with a total base area of 360 feet. The distance between the two adjacent towers was 1,250 feet. That is 15,000 feet (4,572 meters, nearly three miles) from the first to the twelfth in-line tower. The naturally resonant frequency of each array was about 66 kHz.



Close view of the 450-Hz link transmitter at Rocky Point. Installed in the 1930s, it was cutting-edge technology in those days.

The 450-MHz link antenna used at Rocky Point for the 16-mile hop to Riverhead.

Each array consisted of 16 silicon bronze cables, 3/8-inch in diameter, stretched from tower to tower. Each side of a tower's cross arm supported one of that line of tower's two separate arrays. In all, 50 miles of cable was used for the first two arrays. Five additional groups of 12 in-line towers, each supporting two arrays continued to be added after the station opened, for a total of 12 arrays supported by 72 towers. These extended out from around the transmitter building at 60-degree intervals in the form of the spokes of a giant wheel, three miles in diameter.

The ground system for the first 12 towers alone used 450 miles of copper wire which was buried under the ground in star and grid patterns.

The original transmitter building was 130 by 60 feet and accommodated two 200-kW alternator type transmitters with auxiliaries and equipment. Each of the two units was capable of sending radiograms at up to 100 wpm. The cooling pond for the water circulating through the transmitters was 64 by 42 feet, and 7 feet deep. The water was sprayed into the air through four nozzles to aid in cooling and for ornamental appearance. Eventually, a larger transmitter building was built to accommodate additional transmitters. It was originally planned to expand to a total of 10 longwave alternator transmitters, each running 200 kW. Later expansion into shortwave modified this setup.

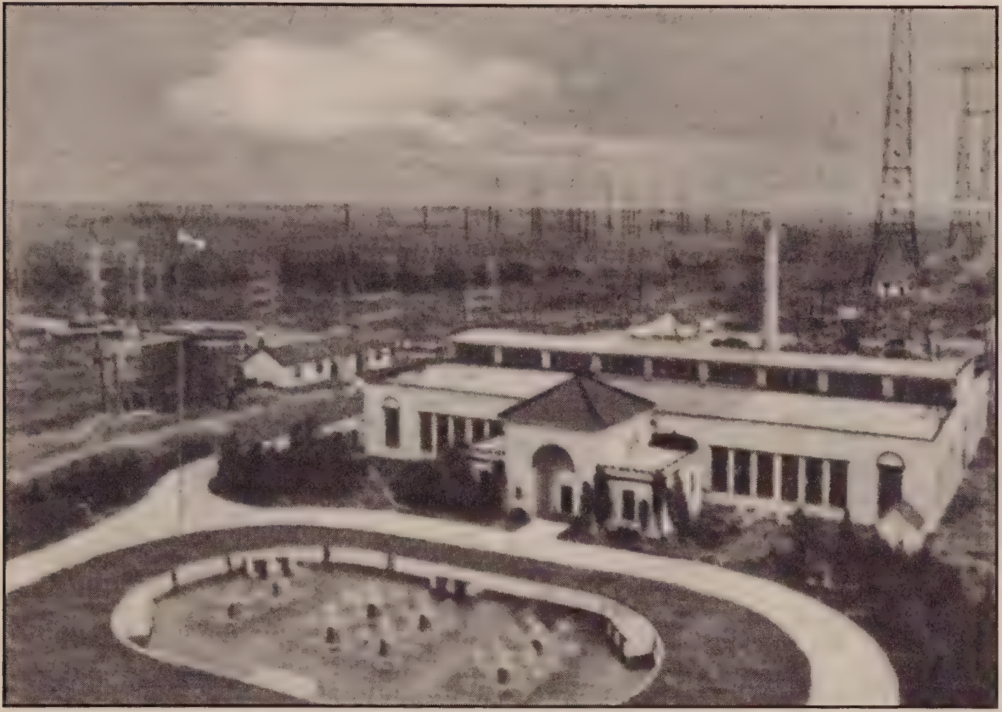
Living quarters for the on-site technical staff consisted of 16 single rooms, an executive suite, a large living room, a dining room, plus servants' quarters. The staff consisted of an engineer-in-charge plus his 15 assistants, all required to service and maintain the equipment.

Remote Control

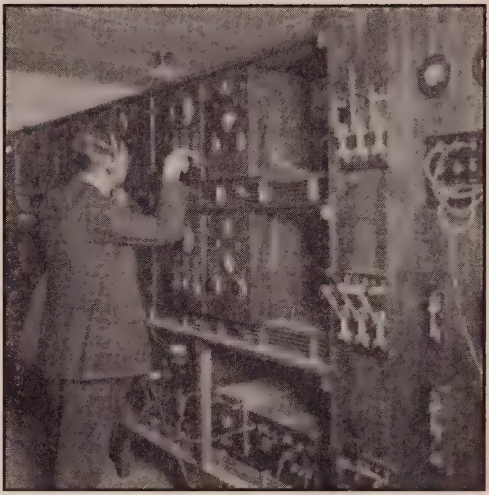
There were no operators at either the transmitting or the receiving sites. All operations were normally controlled from RCA's Central Traffic Office in New York City, though they could be manually controlled locally in an emergency. Control tones sent via landlines were used to switch antennas, tune receivers, turn transmitters on and off, as well as adjust them, and also key the transmitters.

Radio Central was originally licensed under the call letters WQK with 200 kW on 18.3 kHz, taking its place directly between RCA's two other recently acquired 200 kW Tuckerton stations, WCI (18.2 kHz) and WGG (18.4 kHz). Of course, WQK's unique antenna system made it the standout of those three, plus the entire band. WQK therefore became truly the centerpiece of RCA's achievements. Sarnoff vowed it would be given nothing less than a grand opening guaranteed to attract international attention.

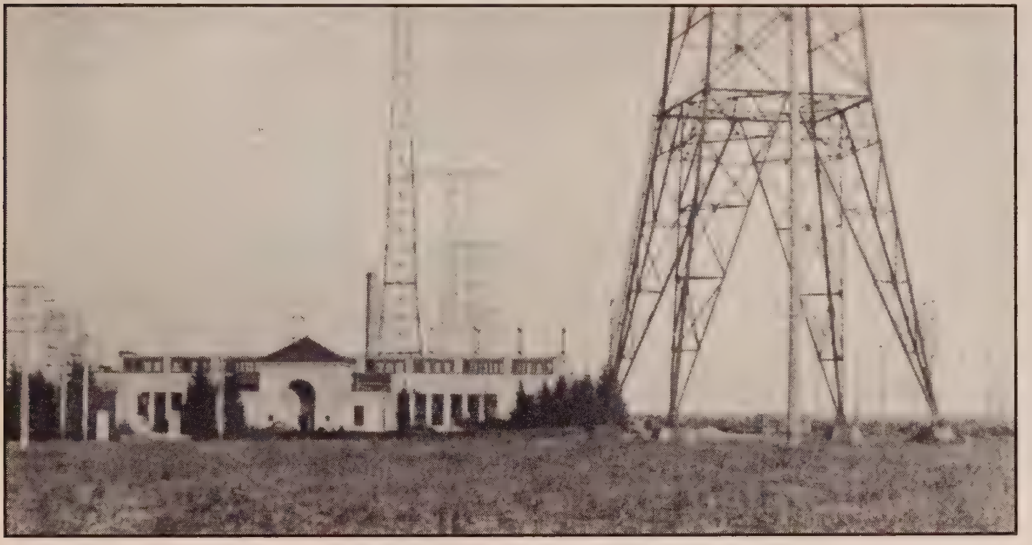
Radio Central was officially opened for traffic on November 5, 1921. On that date, U.S. President Warren G. Harding, seated in the White House, pressed a button on his desk. The generators started up, and within 10 minutes, Harding's mes-



Radio Central's transmitter building and cooling pool, with antenna farm, as they looked from the air in the late 1930s.



The Riverhead RCA receiving facility in 1920. Reception then was via loop antennas with amplifiers and filter circuits, eliminating interference and noise.



A 1950s view of Radio Central's transmitter building offers a nice size comparison of the towers.

sage to the nations of the world was sent out as the station's first traffic. Almost immediately, congratulatory radiogram replies began to arrive from world leaders. **Radio Central** had arrived and made the headlines for RCA here and around the world. This isn't to imply that **Radio Central** was merely a public relations show horse. It really was a magnificent technical achievement, and, for more than 40 years, was a major and busy international communications facility.

Modernizing

As communications technology evolved, so did RCA and **Radio Central**. Records of 1930 show that AT&T added its 190-kW overseas telephone station there, WNL on 56.5 and 58.5 kHz. In 1930, RCA further expanded in low-frequency point-to-point communications when it opened a 250-kW alternator stations in New Brunswick, New Jersey (WII on 21.8 kHz, and WRJ on 22.6 kHz), and in Mason, Massachusetts (WSO on 25.8 kHz).

Even though all of the RCA low-frequency stations remained licensed for many years (some into the 1960s), the trend in long-distance communications was towards shortwave. Records of 1931 indicate that **Radio Central** still had WQK, but there were also more than 60 shortwave stations in use there, utilizing 40 kW with dozens of different call letters on frequencies as high as 21 MHz. That year also saw the establishment of a 450-MHz AM mode link between the Riverhead and Rocky Point facilities.

In 1939, a 407.05-MHz transmitter (AM, but later changed to FM) was installed, linking Riverhead to a 408.00-MHz relay near the midpoint of Long Island in Hauppauge. This improved the sound quality of overseas pickups used by broadcast networks as they were sent to RCA in New York City. Later, the UHF link was replaced by microwave links, including one at Hauppauge. The Hauppauge relay tower still stands northeast of the intersection of Hoffman Lane and Motor Parkway, but has long been used for other purposes.

RCA also opened point-to-point shortwave facilities in California, New Jersey, Hawaii, Puerto Rico, the Philippines, and elsewhere. A few competing carriers opened modest antenna farms on Long Island for shortwave point-to-point operations; however, these didn't match **Radio Central** in either physical size or technical capabilities.

In another **Radio Central** upgrade, during late 1935, the 40-kW transmitter for station WEF on 9582 and 10620 kHz was replaced with a new 200-kW unit. At that time, the late 1930s, **Radio Central** had added capabilities for voice, radiophoto, and RTTY modes to most of its frequencies.

Around the start of World War II (1939), the Riverhead receiving facility was used for monitoring transatlantic broadcasts and point-to-point transmissions. It received AM, SSB, CW, and radiophotos. Some voice transmissions were intended for broadcast network use.

Exterior of the abandoned Riverhead RCA receiving facility, as it appeared in the mid-1960s.

Another view of the abandoned Riverhead RCA receiving facility. Note the large (west-facing) microwave dish at the left.

These were monitored simultaneously on two different frequencies, and both signals were fed into a mixer. In the event one frequency had severe fading or bad interference, the other frequency could be used as a backup. Each of the two frequencies was monitored by a diversity system using three receivers connected to separate antennas. The antennas were mounted vertically and horizontally N/S and E/W. This ensured obtaining the best quality signals possible. These transmissions from war correspondents in London, Paris, Rome, Berlin, Madrid, Vienna, and Moscow were regularly used in NBC, CBS, and Mutual.

The Bitter End

As the years rolled by, new technology proved more reliable then and preferable to shortwave for international point-to-point communications. The first **Telstar** communications satellite (for voice, telegraph, data, telephoto, and fax) was launched on July 10, 1962. It went dark a few months later, but an improved **Telstar II** was launched on May 7, 1963. Additional communications satellites soon followed. These technological developments, plus the advancing age and sheer size of the facility had turned it into an expensive liability. It was slowly phased out. By the mid-1960s, it had been shut down, and not long after that it was razed. The last of the elegant towers was toppled in 1977. The site (south of Route 25A, Rocky Point) became a New York State Conservation Area. A few tower footings and other vague reminders are the only physical remains of the former jewel in RCA Communications' crown.

A better look at the abandoned RCA microwave tower and dish at Riverhead.

The also impressive receiving site (east of the intersection of County Routes 104 and 105 in Riverhead) was also demolished and made a New York State Conservation Area.

At least we have descriptions, stats, and photos to allow a belated visit to this truly imposing communications facility.

The other point-to-point station antenna farms constructed on Long Island by RCA rivals Press Wireless and ITT Worldcom (ex-Mackay Radio) at Hicksville and Brentwood also fell into disuse and were torn down.

Please pass along old time radio and wireless QSLs (good copies are OK), station photos, picture postcards, station directories, and any other related information. Comments and ideas are also welcomed. Our postal address is Alice Brannigan, *Popular Communica-tions,* 25 Newbridge Road, Hicksville, NY 11801. Our direct E-mail address is <Radioville@juno.com>. ■

Rave Review
Pop Comm
April '96

SEE US ON THE WEB!
www.vikingint.com

Professional 10 HOUR RECORDER
"BUILT LIKE A BATTLESHIP"

- Heavy duty commercial recorder - NOT improvised from consumer models
- 12, 14, and 16 hour models also available
- BUILT-IN voice activation (add $30)
- Applications information included
- Dimensions: 11.5 x 7.0 x 2.75"

SPECIAL Pop Comm Price..
$159
Free Shipping to 48 Contiguous States on Prepaid Orders

FREE 40-PAGE SPECIAL EQUIPMENT CATALOG!

COD's OK. Calif. residents add tax. Sorry, no credit cards. Free catalog USA only; other countries $5

Viking International 150 Executive Park Blvd. #4600 San Francisco, CA 94134
Factory Direct Phone: (415) 468-2066 • Fax: (415) 468-2067 "Since 1971"

CIRCLE 74 ON READER SERVICE CARD

[NEW ICOM HF RECEIVER]

It offers MORE

- Front mounted speaker
- Two optional filter slots
- Optional DSP
- Optional PC control

of what you want to hear

- Synchronous AM detection
- Automatic notch filter
- Twin passband tuning
- Triple conversion

for LESS

than what you'd expect to fork over.

ICOM
IC-R75
COMMUNICATIONS RECEIVER
S-AM
RX
15.375.00
PREAMP 2
ANT 1
AGC
NB
MEMO 99
SSB
CW/RTTY
FIL
AM
FM
TS
AF ◆ RF/SQL
TWIN PBT
PHONES
POWER

Presenting the ICOM IC-R75* HF Receiver

Cutting edge technology for today's serious DX'er, yet easy & affordable enough for casual listener use.

Setting a new standard in affordable HF communications, the ICOM IC-R75* comes fully equipped to satisfy both the serious DX'er and the serious DX'er's wallet. **Hear MORE of what's out there.** Pick up more amateur, marine and shortwave broadcasts; the new 'R75* covers from **0.03 – 60.0 MHz.** (That's wider rx than most other HF receivers.)

Pull out the weak signals. The IC-R75 sports a remarkable arsenal of signal detection weapons ready for your command: a **triple conversion** receive system rejects image and spurious signals. An **automatic notch filter** reduces interference by minimizing "beat" and "howl" signals. Use **Twin Passband Tuning (PBT)** to zero in on signals by shaping the IF passband. ICOM's all new **Synchronous AM detection (S-AM)** technology reduces signal fading in AM broadcasts. Optional **Digital Signal Processing (DSP)** noise reduction in the AF stage converts analog SSB, AM and FM signals to crisp, clear audio output (you'll hear the difference on the 'R75's **large, front mounted speaker**). Further tailor the 'R75 to meet your listening needs by installing **up to two optional filters.**

There's much more. Our Website offers the complete specs. But the real eye opener will come only with a test drive of this **suprisingly affordable** rig, so plan to visit your authorized ICOM dealer soon*.

ICOM®

www.icomamerica.com

Call our 24 hour free brochure line: 425-450-6088.

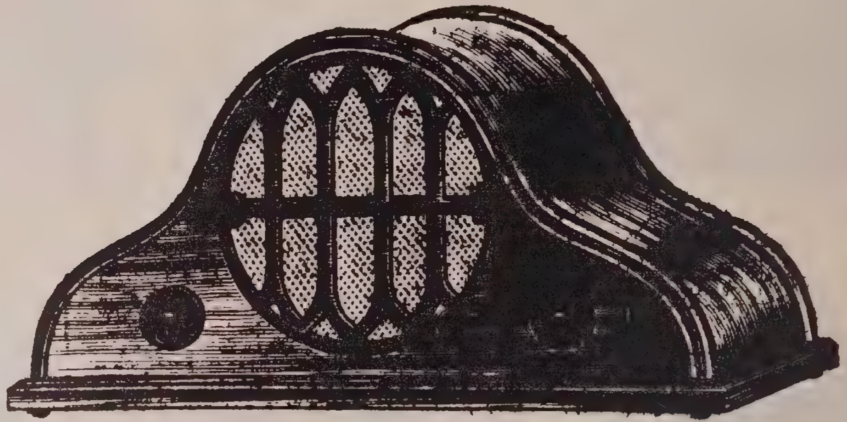
*This device has not been approved by the Federal Communications Commission. This device may not be sold or leased, or offered for sale or lease, until approval of the Federal Communications Commission has been obtained.
©1999 ICOM America, Inc. 2380 116th Ave NE, Bellevue, WA 98004 • 425-454-8155. The ICOM logo is a registered trademark of ICOM, Inc. Questions? Contact ICOM America Tech Support through the HamNet forum on CompuServe® at 75540,525 (e-mail:75540.525@compuserve.com). All specifications subject to change without notice or obligation. CompuServe is a registered trademark of CompuServe, Inc. R75299Y

The Radio Connection

BY PETER J. BERTINI
<RadioConnection@juno.com>

A LOOK BEHIND THE DIALS

A Boy's First Radio, And Coming Projects



Many of you have asked if I could show some simple construction projects in "The Radio Connection" column. This is something I had planned to do in the future, but with my new workbench in place, I've decided now is as a good a time as any for a simple fun project.

I remember building my first one-tube radio back in the late 1950s. The circuit appeared in one of Alfred Morgan's books for boys. For those of you who aren't familiar with Mr. Morgan, he wrote a vast library of books dedicated to introducing boys to the world of electricity and science. His books are now highly collectable; I have been searching for a few select Morgan titles for years! The radio was a simple battery operated one-tube affair, and it took me several weeks to garner all the parts to build the set. I used a simple pine board for the base, and used wood screws to hold down the parts and wire ties, just as Mr. Morgan showed. Mr. Morgan got good mileage out of this simple design, which appeared in his book *First Radio Book for Boys*, published in 1941, and again in *The Boy's First Book of Radio and Electronics,* and in his classic work *The Boy Electrician*. How popular were these books? *The Boy Electrician* had 10 printings that I know of, spanning three decades! I understand that *The Boy Electrician* is again in reprint. I will try to find out more details in time for my next column deadline.

Our Project

Here's the deal. I am going to model "The Radio Connection" one-tube receiver after the original Morgan design. I also realize the difficulty involved in finding the exact vintage parts used in the 1941 design. Besides listing vendors who can supply the vintage parts, I will also show how to substitute more "modern" components to make things easier for my readers. Rather than settle on one specific tube — Morgan used a 1H4G — I will also show wiring schemes for using UV199s, 1H4s, 30s or 230s, and possibly a miniature seven-pin 1.5-volt tube. Eventually, we will add a second tube to give more audio gain; this can be "built in" to the receiver, or can be an add-on accessory. Since I want to get youngsters involved in building, everything will be battery-powered using relatively safe voltage levels.

Win A Free Subscription!

Next month we will talk about how regenerative receivers work and delve into Morgan's receiver design. We'll start a parts list and begin hunting up the parts for the project. To sweeten the pot, we are going to offer five free one-year subscriptions to *Popular Communications*. Of course, there is a catch. You have to build the receiver, or a variation of the design, and submit photos and a few brief paragraphs about your building experience. The rules are simple: If your photo is one of the first five chosen for publication, you win a free subscription! Runner up photos will appear in a collage; no prizes, just the chance to see your handiwork in print. Youngsters will get first priority — dads are encouraged to help! But even those who are young at heart are welcome to enter our contest. We are not changing the direction of "The Radio Connection." There are many restoration topics and radios on hand for future columns.

One more thing. I judge the success of my columns based on the monthly feedback I receive from my readers. The column I ran a few months back featuring readers' mail generated tons of new mail and input. I was a bit surprised. So, if you like this project, I need feedback. I have several other nifty ideas in mind for future columns: simple two-transistor reflex receivers, add-on S-meters and crystal calibrators for vintage receivers, and even simple one or two-tube QRP transmitters. Or how about a *serious* crystal receiver, something that will let us chase DX on the BCB band while adding some sport to the hobby? There will be simple projects, and some that are a bit more advanced, but all will be aimed at the beginner.

I'm going to stick my neck out a bit here. In the past few decades, many electronic hobby magazines have shied away from simple construction projects, and that's a real shame! I would like to hear from the general readership (those of you more into shortwave and scanning who read my column when really bored). How would you feel about some simple projects to fill your needs? I'm thinking along the lines of building your own preselector or antenna tuner, or a magnetic balun for your longwire antenna. Perhaps some simple active antenna circuits you can whip together for four or five dollars? Or maybe a code practice oscillator? Most of these projects go beyond the charter of "The Radio Connection" column, but they could be done as specials in the magazine. You can build something and learn, have a useful project, and save money all at the same time! These are some things I would like to write about. Let me know what you think, and I will pass the information on to Harold.

A Reader's Dilemma

"Peter, I read your columns with a great deal of interest. I would like to collect on a large scale, but I think my wife would leave me! I do have (pushed into a back closet) an exact duplicate of the Atwater Kent lowboy that you pictured in a recent column. It's in great shape — it even has the original tags hanging in back, including an NRA tag. I bought it at a flea market about 15 years ago for $100. I've never plugged it in. It's a restoration project for my retirement (which is ever closer!).

It has one major flaw: it was damaged during Hurricane Camille in 1969. It had apparently stood in water about halfway up the legs. Below that level the finish is gone and the wood is checked with shallow surface cracks. I suppose I could completely refinish the entire cabinet, but I don't know how to achieve an original look. Could you recommend books, literature, or sources that would help me do it right? Does anyone make decals that are identical to the original cabinet markings? Is there any person or firm that does such refinishing at an affordable price? Perhaps you could do a column on this subject. Thank you."

—C. H. Ver Berkmoes, Mississippi

Whew, C.H., you've got a list of requests there! I wish you had given me some more insight on the condition of the remainder of the cabinet — that will determine your best restoration course. I will assume from your comments that the body of the cabinet is in good condition, the finish is good, and the veneers are tight. I advise minimal restoration when it comes to cabinets, unless you are expert in the field, and few of us are! Last month's column gave some suggestions for cleaning and polishing, which is all many sets need to be brought to display condition.

Your cabinet is finished in nitrocellulose lacquer. This can be sprayed. While it's best done using an HVLP (High-Volume, Low-Pressure) sprayer, spray cans will also do a good job with practice. Fortunately, lacquer is forgiving, runs are easily rubbed smooth, and, unlike urethanes, it is easy to strip and start over in case of major mistakes. The manufacturer used toners to adjust the actual color and translucence of the finish. Darker toners often masked inferior woods. In practice, many restorers now use aniline (water-based) stains, or oil-based stains to achieve the proper look. I think the MinWax "special walnut" might be a good starting point. If an oil-based stain is used, allow a few weeks before applying any finishes. If you are using an HVLP sprayer, you can mix your lacquer and toners for a perfect match, otherwise you are limited to the toner colors offered in the catalogs. One caveat: lacquer is an especially toxic and obnoxious product. Never spray indoors unless you have a spray booth. Lacquer is also extremely flammable! We're all adults here — read the safety labels for these products and abide by those directions.

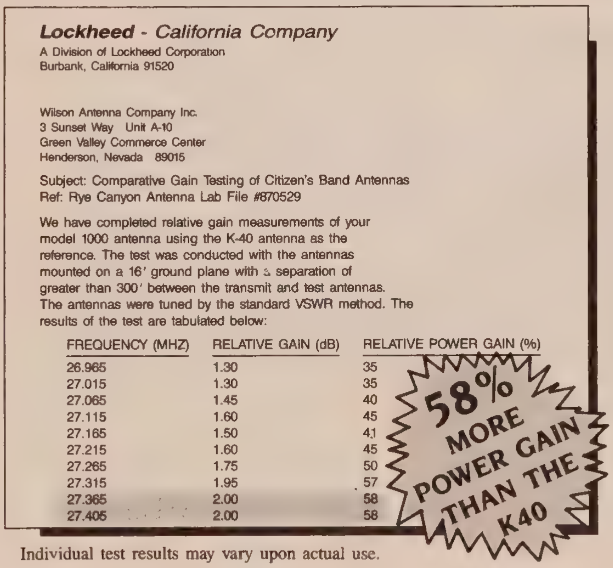
Thankfully, C.H.'s cabinet body was not damaged, and there is no veneering to be done. Fixing the legs should be a simple task and within the abilities of a beginner. You will have to disassemble the lowboy legs to do things properly. The glue joints are certainly weakened and damaged; the old hide glue must be completely removed and everything reassembled using clamps and carpenters glue. The checking can be fixed using wood filler. The folks at a good workworkers'

Wilson
1000

World's Most Powerful CB and Amateur Mobile Antenna*

Lockheed Corp. Test Shows Wilson 1000 CB Antenna Has 58% More Gain Than The K40 Antenna (on channel 40).

In tests conducted by Lockheed Corporation, one of the world's largest Aerospace Companies, at their Rye Canyon Laboratory and Antenna Test Range, the Wilson 1000 was found to have 58% more power gain than the K40 Electronics Company, K40 CB Antenna. This means that the Wilson 1000 gives you 58% more gain on both transmit and receive. Now you can instantly increase your operating range by using a Wilson 1000.



Lockheed - California Company
A Division of Lockheed Corporation
Burbank, California 91520

Wilson Antenna Company Inc.
3 Sunset Way Unit A-10
Green Valley Commerce Center
Henderson, Nevada 89015

Subject: Comparative Gain Testing of Citizen's Band Antennas
Ref: Rye Canyon Antenna Lab File #870529

We have completed relative gain measurements of your model 1000 antenna using the K-40 antenna as the reference. The test was conducted with the antennas mounted on a 16′ ground plane with a separation of greater than 300′ between the transmit and test antennas. The antennas were tuned by the standard VSWR method. The results of the test are tabulated below:

FREQUENCY (MHZ)	RELATIVE GAIN (dB)	RELATIVE POWER GAIN (%)
26.965	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
27.405	2.00	58

Individual test results may vary upon actual use.

Guaranteed To Transmit and Receive Farther Than Any Other Mobile CB Antenna or Your Money Back**

New Design

The Wilson 1000 higher gain performance is a result of new design developments that bring you the most powerful CB base loaded antenna available.

Why Wilson 1000 Performs Better

Many CB antennas lose more than 50% of the power put into them. The power is wasted as heat loss in the plastic inside the coil form and not radiated as radio waves.

We have designed a new coil form which suspends the coil in air and still retains the rigidity needed for support. This new design eliminates 95% of the dielectric losses. We feel that this new design is so unique that we have filed a patent application on it.

In addition, we use 10 Ga. silver plated wire to reduce resistive losses to a minimum.

In order to handle higher power for amateur use, we used the more efficient direct coupling method of matching, rather than the lossy capacitor coupling. With this method the Wilson 1000 will handle 3000 watts of power.

The Best You Can Buy

So far you have read about why the Wilson 1000 performs better, but it is also one of the most rugged antennas you can buy. It is made from high impact thermoplastics with ultraviolet protection. The threaded body mount and coil threads are stainless steel; the whip is tapered 17-7 ph. stainless steel. All of these reasons are why it is the best CB antenna on the market today, and we guarantee to you that it will outperform any CB antenna (K40, Formula 1, you name it) or your money back!

*Inductively base loaded antennas
**Call for details.

CALL TODAY
TOLL FREE: 1-800-541-6116
FOR YOUR NEAREST DEALER
Wilson 1000

Roof Top Mount.........59^{95}
Trunk Lip Mount.......69^{95}
Magnetic Mount ....79^{95}
500 Magnetic Mount .59^{95}
Little Wil.....................29^{95}
Wilson 2000 Trucker .59^{95}
Wilson 5000 Trucker .79^{95}
Call About Fiberglass!!!
Wilson 5000 Baseload — NOW AVAILABLE!

Wilson
ANTENNA INC.
1181 GRIER DR., STE . A
LAS VEGAS, NV 89119

outlet should be able to advise you on the best filler for the job. It will depend on the depth and width of the cracks. Once the cracks are filled, you will need to sand the surfaces smooth. If there are open wood pores (found in oak and walnut), you will need to use grain filler to achieve a smooth "piano" finish. You may stain to match at this point, unless you elect to use toners to do the job. I also advise using yellow shellac for the first two or three coats; each coat is followed by a rubbing with fine sandpaper. Using a shellac for a base helps achieve a smooth finish. It also acts like a grain filler. Your finish coats should be done using spray lacquer. You can use a clear lacquer if you have previously stained the pieces to match the rest of the cabinet; otherwise choose a toner. Manufacturers use lacquer because it meets the needs of assembly line construction, not because of its beauty! Lacquer will dry in less than an hour. You can do several coats in a day! Rub the lacquer to a smooth finish using automotive rubbing compound.

I will go into refinishing in greater detail in future columns. Watch for "Tales of an American Bosch," where we will take a completely destroyed 1930s tombstone and bring it back to new condition. This project was finished last spring, and I have many photos of the restoration process. In the meantime, I suggest you write for catalogs from Antique Electronic Supply and from Constantine's. AES carries some excellent spray lacquers. Constantine's carries lacquers and veneering supplies. Both suppliers offer some excellent books on the subject of refinishing. And there's good news — Atwater Kent decals are shown in the AES catalog!

Next month, I will give you some advice on what to do before powering up the AK chassis and what precautions are needed when first applying power to the set. AKs are very nice radios, and if you're limited to a few sets you couldn't do much better!

At The Workbench — Choosing Your First Tube Tester

Tube testers appear to be complicated and elaborate instruments. Nothing could be further from the truth. Despite the maze of wiring and numerous controls, a tube tester can only offer some basic measurements of a tube's performance.

Have you ever looked at a tube tester and wondered what that long row of slide or lever switches was for? The answer is surprisingly simple! A tube tester will have a variety of sockets to accommodate different tube styles. If you look closely inside at the maze of wiring, you will see that all of the tube sockets are simply wired in parallel; that is, all of the pin "ones" are tied together, etc. The switch positions are set to the settings shown on the tube chart that comes with the tester. Initially, all of the switches are set to a neutral position. As you set each switch, you are telling the tester which socket pins are for the cathode, the control, screen and suppressor grids, and the filament and plate for the particular tube you're testing.

Testing Tubes

Tube testers come in two flavors. The least expensive is the "emission" type. The emission tester configures the tube as a rectifier, measuring the emission between the cathode and the first element in a tube. The instrument gives an indication based on the life left in the tube's cathode. As a tube ages, the cathode's ability to emit electrons to the plate gradually diminishes. The tester rates the tube with a "good," "questionable," or "poor" reading on the meter. Most testers will also permit testing for gas or internal shorts between tube elements. Often a neon bulb is used as an indicator for showing leakage. Heater-to-cathode leakage is a commonly found tube fault which can cause hum when used in an amplifier circuit, or power supply shorts when a cathode rectifier tube, such as the 6X5, is used. Often a small amount of cathode-to-filament leakage will cause no problems in a set. Good, used emission tube testers are fairly inexpensive.

Mutual Conductance Testers

The Cadillac of tube testers is the "mutual conductance" type. A mutual conductance tester tests a tube under simulated operating conditions. A small AC signal is applied to the grid, and the amplification factor of the tube is shown on the meter. The meter reading is micro-mhos, which is compared to the desired micro-mho reading on the chart for that tube. We'll talk about mutual conductance in greater depth next month. This is a better test of how a tube will actually perform when used in the circuit.

Setting up a mutual conductance tester is a bit more complicated than the emission type of tester. The chart will usually include data for two additional linear controls for setting the "bias" and "English." These set the tube biasing and plate voltages to the desired levels needed by that tube tester.

Expect to pay a premium for a good mutual conductance tester. The Hickok tube testers are higher quality instruments and command higher prices than brands such as Paco, Eico, or Heathkit. There are exceptions: Heath and others made some higher-end units that deserve consideration. A good Hickok tester runs between $50 and $200. Prices vary widely according to where you find the tester. Obviously, a good tester is a high-demand item at vintage radio meets. You may find a real bargain at a ham radio flea market.

What To Look For

Make sure the tester you are buying includes sockets for all of the vintage tubes you will be testing. It should have sockets for the older four, five, and seven-pin tubes (the ones with two large filament pins), as well as sockets for octal and locktal tubes, and the newer seven and nine-pin tubes at a minimum. If you are interested in vintage military radios, or vintage communications receivers, you may also need a socket for acorn tubes. Most testers use an internal roll chart for the latest tube series the tester was designed for. If your interests extend to televisions and tube electronic gear of the 1960s, you should look for a tester that can also handle Compactrons, Novars, and Nuvistors. To keep up with the newer style tubes, many manufacturers offered special adapters to allow older testers to handle the new tube styles. A tester with the companion adapter commands a premium.

If you're examining a tester with an internal roll chart, check to ensure that the roll scrolls smoothly from end to end. Tube sockets should grab the tube pins firmly, otherwise the socket may be worn and require changing, which is a tedious job. Another nifty accessory is the "socket saver." This device is simply a plug-in tube socket. When the adapter socket wore out, it was simply replaced with a new one. As new tubes came into use, and as others became obsolete, the tube tester manufacturer would offer new updated roll charts or booklets to cover the popular and newer tubes. "Obsolete" tubes are usually covered in booklet addendums. It is always best to choose a tester that has included all the information you need. My Hickok has the operator's manual, two "vintage" booklets for obsolete tubes, and a "newer" rollchart.

Mutual conductance testers are calibrated devices. If possible, test a new tube on a known good tester and compare the readings. Look for an instrument that has been cared for; one not covered with mildew from being stored in a damp cellar. And don't forget — these testers may also have one or two rectifier tubes inside! One final note: make sure the flying-lead grid/plate cap accessories accompany the candidate tester, as you will need these to test many vintage tubes.

The first item I bought when I began collecting radios was a clean used model 800 Hickok tube tester. It is also the least used piece of test equipment I own. It's like having insurance: you seldom use it, but when you need it, it better be there! I find few bad tubes in old radios, and most of the bad ones are obvious — having open filaments or cracked envelopes. Often it is easier to troubleshoot to a defective tube stage rather than set up the tester for each of the several tube types used in a larger radio. I test all new and used tubes I buy. The final test is how well a tube performs in the set. Even a tube that tests weak may have many hours of life left when used in a non-critical circuit. A tube may be used in RF or audio stages, and its performance may be radically different in each application. Tubes that pass with flying colors may be gassy at high voltages or have microphonics. The best test is to compare how the set performs by substituting a suspect tube with a known good one.

Storing Tubes

Once you start collecting radios, you will find yourself hoarding vast quantities of tubes. It comes with the territory. These will come from scrapped sets, bushel baskets full from radio meets or yard sales, or from friends' cellars. In 30 years, I have accumulated several thousand tubes. The situation has gotten out of hand in my case. I have several large boxes of tubes in my cellar. Some are boxed, many are loose and unprotected. Regardless of the quantity of tubes you own, they should be boxed, inventoried, and stored in a logical numerical order. Imagine trying to find one tube in a pile of several thousand? I often have to buy a tube, even when I know I have several hidden away in those boxes.

Antique Electronic Supply offers an array of products to help you keep your tube inventory handeable. They carry several sizes of tube boxes, along with tube crates and cartons for storage. The tube boxes cost from 12 to 33 cents apiece, which is cheap insurance to protect your tubes.

Coming Attractions In June!

"The Radio Connection" will kick off its one-tube regenerative radio project next month. Also, learn how the professionals apply power to a radio for the first time, what equipment you need, and how to do it safely! To close out our introduction to tube testers, I'll delve into the mysteries of "mutual conductance," telling what the heck it is and why "test" for it? Don't miss it! ■

Restoration Resources

Antique Electronic Supply
6221 South Maple Ave.
Tempe, AZ 85283
Phone: 602-820-5411
<http://www.tubesandmore.com>

Constantine's
2050 Eastchester Rd.
Bronx, NY 10461
Phone: 718-792-1600
<http://www.constantines.com>

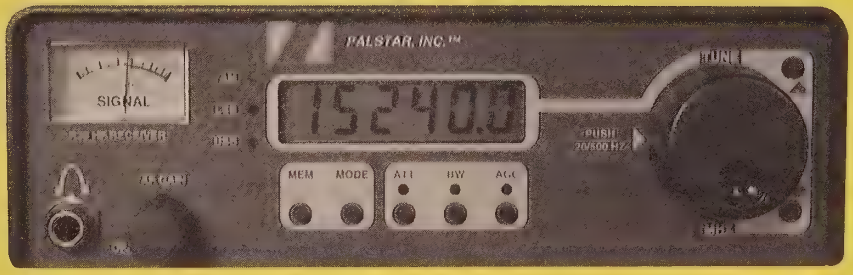
WE'RE ON THE WEB!
Check out our Web Site at
http://www.popular-communications

DELPHI
INTERNET™
Get online with POP'COMM on Delphi!
To sign up dial
1-800-365-4636
with your computer & modem, and enter ELECTRONIC at the sign-up password prompt! You can find
POPULAR COMMUNICATIONS
in the Radio & Electronics Forum
(GO HOB RADIO).
http://www.delphi.com/electronic

CIRCLE 66 ON READER SERVICE CARD

FREE SAMPLE COPY!
ANTIQUE RADIO CLASSIFIED
Antique Radio's Largest-Circulation Monthly Magazine
Articles - Classifieds - Ads for Parts & Services
Also: Early TV, Ham Equip., Books, Telegraph, 40's & 50's Radios & more...
Free 20-word ad each month. Don't miss out!
1-Year: $39.49 ($57.95 by 1st Class)
6-Month Trial - $19.95. Foreign - Write.
A.R.C., P.O. Box 802-T14, Carlisle, MA 01741
Phone: (978) 371-0512; Fax: (978) 371-7129
Web: www.antiqueradio.com

R30 WORLD BAND SHORTWAVE RECEIVER



FEATURES
- Full Coverage
- LW/MW/SW
- LCD Display
- AM/LSB/USB
- 100 Memories
- 12-Pole Filtering
- +15dBm Intercept
- High Dynamic Range
- Optional Collins Filter
- Super SSB

The PALSTAR R30 sets the standard for compact high-performance receivers. With its 8" x 7" x 2.5" chassis the R30 has 6 switchable input filters, a two-loop RF derived AGC system and a 3 Watt amp for superb audio. Optional Collins torsional mode filters are available for those shortwave listeners that want the best. Designed and built in the USA. Visit our web page at www.palstarinc.com for more details.

PALSTAR INC.
PIQUA, OH
U.S.A.

9676 N. Looney Road, P.O. Box 1136, Piqua, Ohio 45356
Tel: (937)-773-6255 Fax: (937)-773-8003
Email: Palstar@erinet.com Visit our website at http://www.palstarinc.com

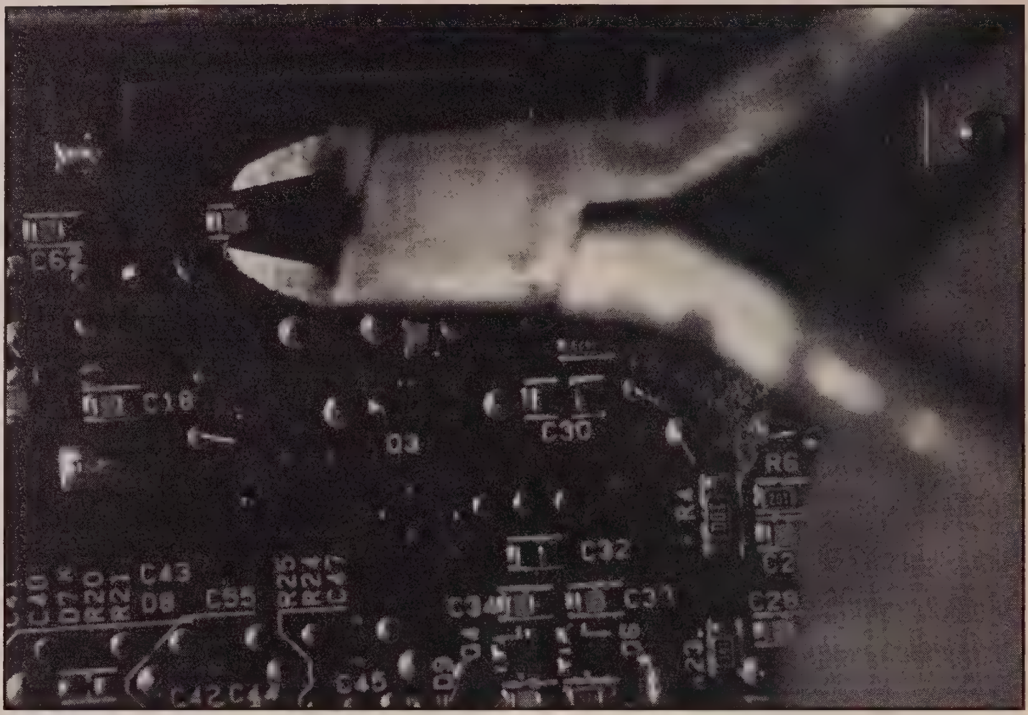
CIRCLE 71 ON READER SERVICE CARD

BY GORDON WEST, WB6NOA

Radio Resources

INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

Success In Soldering Micro Mods



Another approach to removing chip components is to wiggle them out.

There are a couple of funny jokes about micro-component soldering techniques. For starters, never hold the soldering iron by the hot end. And remember, you don't want your pals to criticize your soldering job as if you had used a blow torch. And as all of us who have worked on tiny scanners and HTs on the bench know, we *have* grabbed the wrong end of the iron when not looking! I remember some of my micro-soldering jobs looked like I had used one of those small propane flame-throwers!

Guns And Irons

For big soldering jobs, I prefer a dual-heat, 240-watt and 325-watt combo Weller.™ When soldering PL-259s outside in the wind, it's going to take this type of soldering gun, or a small soldering torch to get the metal you are soldering hot enough to make a nice shiny connection. If you're up on the roof, those little soldering pens powered by butane work great. There are no extension cords to trip over! I've seen those little soldering torches sell for as little as $15, and they get sufficiently hot to let you successfully do PLs and dipoles easily, even with a little breeze.

But soldering guns and small soldering torches are way too big for circuit board work. You'll need to put the big guns and torches aside and go with a lightweight soldering pencil. Some have adjustable wattage settings, allowing you to pick just the right amount of heat, yet others may come in a fixed low- or medium-power wattage with a selection of different types of tips.

When I work on scanners and handheld transceivers, my favorite tool is a 12-watt lightweight iron with a copper tip I have filed into a tiny wedge. Twelve watts is plenty for adding, or removing, those tiny SMT (surface mount technology) diodes, chip resistors, or solder bridges. If I need to do bigger work, I'll pull out my 40-watt iron, which gives me sufficient heat to repair a larger solder trace, making the connection to the BNC jack for the rubber antenna. (When a BNC jack begins to wiggle because the retaining nut on the inside or the outside of the handheld equipment gets loose, the first thing that usually goes is the hard-wire connection between the board and the active antenna wire pick-up). I will sometimes replace the hard-wire pick-up with a flexible solder wick, so if the jack becomes loose again, it is less likely to damage the trace on the PCB (printed circuit board).

Q.Can you easily see a damaged circuit board antenna pick-up pad?

A. It's obvious.

B. Never. You need an ohm meter.

C. Sometimes, by doing a wiggle test.

Keep your continuity meter off of that antenna connection. I have seen front-end GaAsFET transistors blown by improper continuity checks where a small amount of voltage is accidentally placed on the circuit board pad.

Look carefully at the connection, and do the wiggle test. If the little antenna wire appears to pull in and out of the solder pad, chances are this is the cause of your intermittent reception. Most of the time, with a little prodding, poking, and wiggling, you can track down intermittent solder point connections on the printed circuit board. I usually use a jeweler's magnifier for an improved "look" at what went wrong.

Which Solder?

It is important to use the right type of solder when adding, or removing, surface mount components during a mod job on your scanner and HT.

Q. What solder should I use?

A. Pure tin

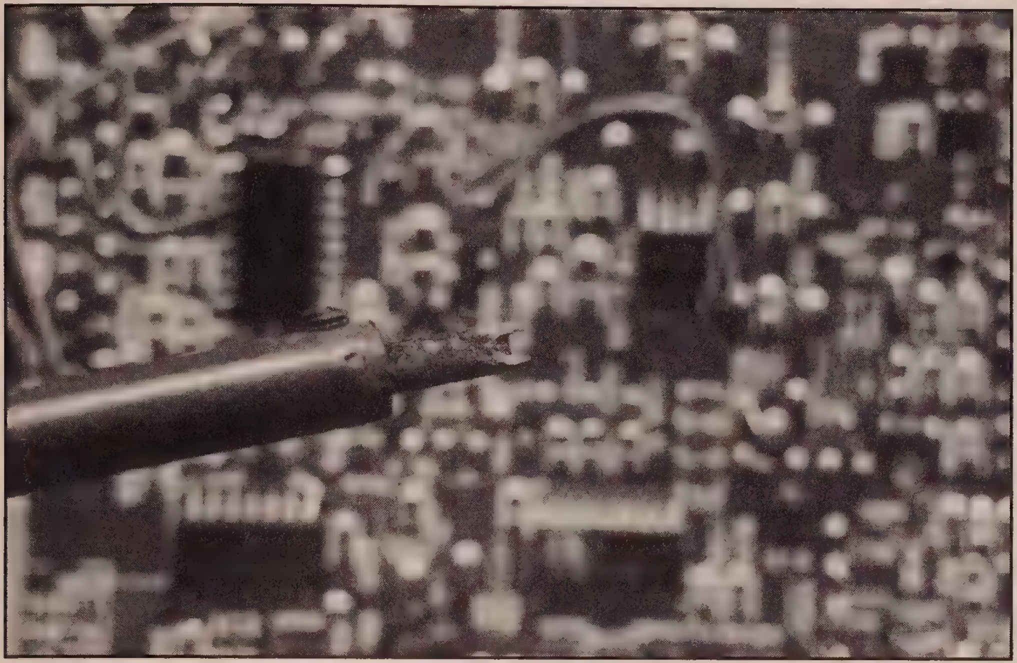
B. Pure lead

C. 60 percent tin, and 40 percent lead

D. 60 percent lead, and 40 percent tin

Go to any RadioShack and buy a roll of their small diameter, 60/40 solder; 60 percent tin, and 40 percent lead. This combo goes from solid to liquid around 400 degrees over a 10-degree "plastic" meltdown stage.

"Moving the joint during the plastic stage ruins it," comments Dick Glass, CET (Certified Electronics Technician), the "head banana" at the Electronics



This homemade forked tip is one way to remove chip resistors.

Technician Association International. "If you could find 63 percent tin and 37 percent lead solder, you would have an advantage — no slushy stage, with the down side that 63/37 does not make quite as strong of a bond as 60/40," added Glass in a recent discussion in his *Journal for High Tech Professionals.*

When working with SMT three-legged diodes, 47K programming chip resistors, or zero ohm chip resistor jumpers, it's important that you get on and off of the connection point quickly, to minimize destructive heating of other components around the one you are trying to solder or remove. You can also buy small bottles of circuit board component cleaning solutions, and a good clean solder pad may ensure the solder sticks on your first try. If you are working on the top of a circuit board, many times there is a nearly transparent varnish that must be removed before you can get a good solder connection to that specific component. Circuit boards on small handhelds and scanners usually get a special invisible coating to protect the equipment from a damp environment.

Q. What should the tip of my soldering iron look like as I go in, getting ready for contact?

A. Shiny copper

B. Dark brown

C. Glowing red

D. Silver tinned

Good soldering technique involves "tinning" the tip of your soldering pencil before going in there for your delicate mod job. I use a wet sponge to wipe off the tip and apply a small amount of solder to give it that nice, shiny silver look. Plated tips might not require this process, but most of your soldering may be with a copper tip that requires regular retinning.

Q. What is an advantage of using a wet sponge?

A. It lowers the soldering iron tip temperature.

B. It raises the soldering iron tip temperature.

C. It bleeds off static electricity.

D. There is no advantage.

The wet sponge allows you to clean the tip in preparation for possible tinning. If the tip is too hot, the solder may not adhere properly, or begin to ball-up into useless little beads that may give you nothing but problems when trying to work on that tiny component no larger than a juvenile ant! Wiping the tip on the wet sponge quickly lowers the temperature, allowing solder to smoothly adhere to the component.

Q. How many scanner/HT modifications require a soldering iron?

A. Most

B. Most do not

C. Half and half

A little research using the Internet for the modification information, plus the two excellent modification books from ARTSCI of Burbank, California; 818-843-4080 or <http://www.artscipub.com>, I found that many amateur radio handheld modification procedures may *not* require a soldering iron. But in the case of *repairing* small equipment after a modification catastrophe, many times the soldering iron *is* required.

On bigger shortwave receivers, base

STOP! LOOK & Listen to This!

Alinco DJ-X10T – We've reinvented the multichannel receiver!

- 1200 memories plus two VFOs
- 100 KHz – 2 GHz coverage*
- WFM, NFM, AM, USB, LSB and CW modes
- Alphanumeric channel designations – up to 3 lines
- Multi-function Channel Scope™ display
- Internal "help" function
- PC programmable
- Beginner and Expert operating modes
- Automatic Memory Write Feature
- Auto timer on/off, internal clock
- Backlit display and keys

The Alinco DJ-S46 FRS radio will have YOU talking!

Pivoting Antenna!

- NO License Needed
- Up to 2 mile range**
- 14 Channels
- FM Transmit/Receive
- NiCd, Alkaline or External Power
- Long Battery Life
- Self Storing Antenna
- Compact Size
- Simple Operation
- Lighted Display
- Accessory Ports
- Compatible with other FRS radios

Visit our web site!

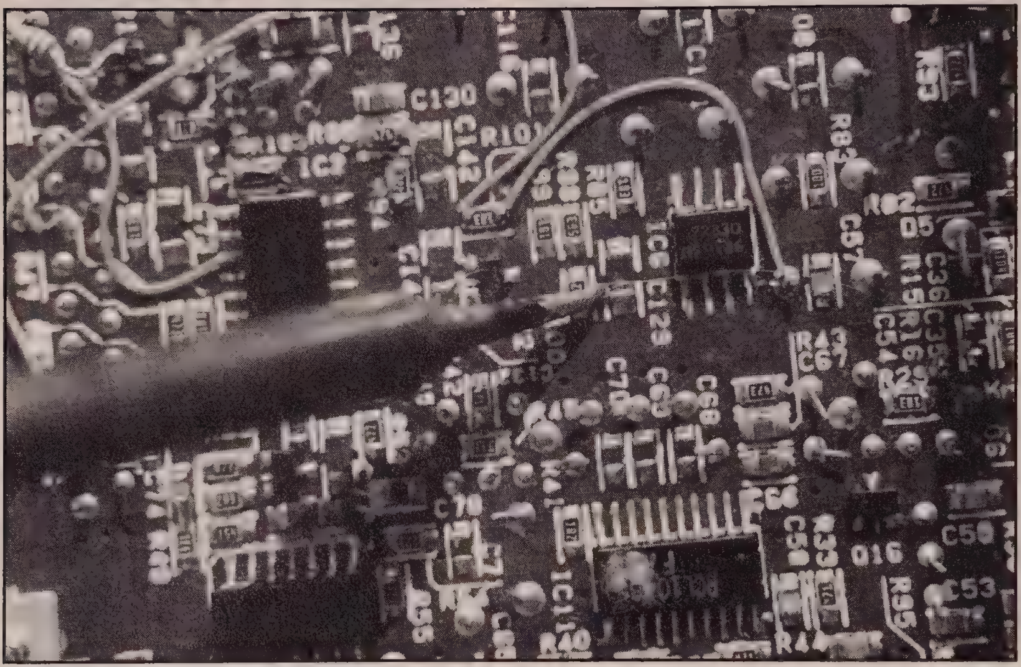
Simple ▪ Clean ▪ Dependable

ALINCO®
RADIO'S VALUE LEADER℠
Dealer Inquiries Welcome

U.S.A. Alinco Branch: 438 Amapola Ave.
Suite 130 • Torrance, CA 90501
Phone: (310) 618-8616 • Fax: (310) 618-8758
Internet: http: //www.alinco.com

*Cellular blocked. **Effective operating range varies due to terrain, channel use, batteries and other conditions

CIRCLE 62 ON READER SERVICE CARD



Removing chip resistors is best done with a soldering pencil of less than 20 watts.

station scanners, and on some mobile HF ham transceivers, the required modification to enhance frequency selection is a small glass diode on the top of the circuit board, with exposed leads that can be easily accessed and cut with a new sharp diagonal tool. But don't try to use that old pair of dikes that you've used to cut antenna whips. These are way too large, and usually have badly pitted cutters. You want a brand new small tool with a tip that hasn't been abused and can easily grasp the little diode lead, cutting it cleanly. I usually cut the diode in the middle to give me a second chance in case I whacked the wrong diode! If all of a sudden your equipment absolutely goes bananas after the mod, you can always go back in and drop a little solder on the purposely-cut leads, which puts you back at the beginning!

On SMT components that need to be merely *removed*, do like the pros and carefully unsolder each leg, but remember that you're running the risk of heating up nearby components into destruction. But, if you just go in there and try to yank the SMT out, you risk the chance of pulling up a circuit board trace, and now you are in major trouble.

I wiggle out the SMT to be removed using a precision small cutter tool and grasping the little component just tight enough to hold onto it firmly. Then, *very carefully*, wiggle the component back and forth until each leg pulls loose from the solder pad. I try NOT to break the component, in case I remove the wrong one and may ultimately need to put it back!

I have watched modification experts like Electronics Unlimited, Inc. (Lake Park, Florida; 561-627-9610) and John, at Trionyx, Inc. (Brownsburg, Indiana; 317-852-5544) always use their micro-soldering iron to extract SMTs. These two groups will set up at a hamfest or radio show and work magic on handheld and mobile equipment in just minutes. Their work is professional and they have the back-up diodes and chip resistors just in case something should go wrong. If you don't want to do the micro-surgery yourself, give these folks a call and see how reasonable it may be to let the pros do the work for you.

On some small equipment, like Yaesu handheld radios, you must completely sever the micro-solder pads to get your equipment to do more magic. You would think running a bead of solder between two small pads is easy, but it's tricky! Too much solder and you bridge pads that weren't supposed to be bridged. This requires a solder vacuum sucker to pull up the unwanted solder, or flexible solder wick to wick up the errant solder on the board. I use a little red solder-sucker bulb to aspirate an improper solder glob. More expensive electronic solder suckers will do a much better job, but unless you regularly do mods, chances are all you may need is a little bulb. I had a friend that tied oxygen tubing up to his vacuum cleaner, and he miraculously undid someone's botched modification with ease!

Q. What do the manufacturers think of mods?

A. Don't do mods
B. Never add a mod
C. They simply don't want them.
D. Don't ask

Radio equipment manufacturers are quite sensitive about the modification issue. Some mods they'll talk about, yet others they won't. If you want to do a modification to speed up scanning on your handheld, they may FAX you the information. If you are a member of the Civil Air Patrol or the United States Coast Guard Auxiliary, and you can *prove* it, they may FAX you the information. But if you just call them up and ask what diode to whack to let your new HT transmit out of band, I guarantee they won't be interested in carrying on a conversation.

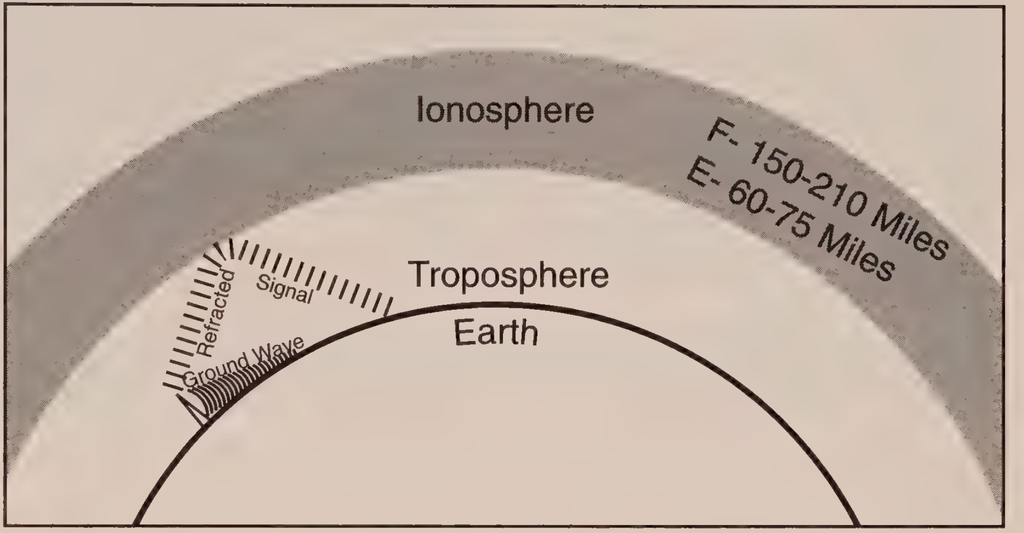
As a professional radio operator, you must be sensitive to the fact that modifications might lead to a real bozo coming up on the local high-band police department frequency. Or maybe you are a licensed ham, and you modified your little dual-band handheld to work on your assigned United States Coast Guard Auxiliary frequency for which you hold a special government license. But when they call you on VHF, you accidentally respond on UHF, dropping your conversation onto the local sheriff frequency. Be very, very careful after any mod job that might affect frequency expansion! You will generally get a lot more information out of the ARTSCI mod books and the Internet than you will from the equipment manufacturers who are very careful not to encourage modifications.

If ever you need to send your equipment in for service, most manufacturers will leave your mod alone as long as it didn't contribute to the failure of your set. But if your mod job ruined some nearby components, get set for a relatively high repair bill, and maybe a trip back to those two modification experts.

Good soldering techniques at the component level are an important skill for you to master. Digital logic in the modern two-way and scanner radio may control a variety of options that overseas manufacturers didn't realize you needed. Recently, a small marine SSB crossed my bench, and the owner indicated it couldn't go to lower sideband for the ham 40-meter, 80-meter, and 160-meter capabilities. It was shipped from the factory as a straight marine transceiver where all frequencies are upper sideband. Once we located the zero ohm chip resistor that controls lower sideband, a quick wiggle job now opened up this very useful (and perfectly legal for the ham) option. There may be many receivers that can do all sorts of things with proper diode reprogramming.So, let's sharpen our solder skills! Drop me a line and let me know your progress. ■

BY KEN REISS
<armadillo1@aol.com>

Tis The Season . . . For Skip — And Getting Organized



The ionosphere can cause strange behavior in VHF and UHF signals. The transmitter at the left is experiencing refraction of its signal. It could be received at a considerable distance beyond the normal line of sight we expect at these frequencies.

Have you ever heard a strange dispatcher on your local police frequency? (No, not just a newly hired person who's sort of weird). I'm talking about a totally different dispatch system with different numbers and codes and strange streets. Or have you ever done a double-take because you realized that you were hearing a repeater on a frequency that you *know* doesn't have one? Or perhaps the officers had an accent that doesn't match your area? Chances are you were hearing some distant station that shares the frequency with your local police department.

Most of us think of scanner communications as pretty much a line-of-sight affair. And most of the time, it does work that way. But every now and again, just to keep you guessing, VHF and UHF signals can travel great distances. It happens with much more regularity than you would imagine, and for much greater distances than you might think. Let's take a look at how this happens, and some things you might do to get ready for some great long distance catches.

What Is Skip?

Actually *skip* really refers to only a couple of the ways that distant signals find their way to your receiver. *Radio Frequency Propagation* is the correct terminology, and there are many different forms of propagation. Shortwave listeners rely on propagation almost any time of day or night to hear the distant signals on their receivers. If you want to hear some "for sure" propagation, tune across the AM broadcast band any night with almost any receiver. Your car radio makes a great one to start with if you don't have a tunable receiver at home. Lots of AM stations from all over the country (and across the ocean, sometimes) come booming in. On some frequencies, it's hard to distinguish just how many stations you're hearing at once.

There are many ways that signals can travel great distances beyond their intended range. Of course, sometimes (such as in ham applications) this is exactly the effect we're after, but in the public safety world of VHF/UHF communications, it's not a good thing. I recall talking to a Missouri State Patrolman years ago who was complaining that sometimes Winnipeg, Manitoba, was so strong that they would have to call Winnipeg from their cars and ask them to relay to the Missouri Troop that they were in or out of service, etc. I would imagine that could result in some tense moments under the wrong circumstances. Of course, most state patrols in those days operated in the VHF-LO region; Missouri still does, but Winnipeg has moved to a higher frequency.

But not all propagation is confined to VHF-LO. Lots of signals can be caught from a state or two away on the VHF-HI band, and, while not quite as common, even UHF signals can behave in strange ways. I've never heard any 800-MHz propagation, but that doesn't mean it's not there. I just don't go looking for it.

So How Does All This Work?

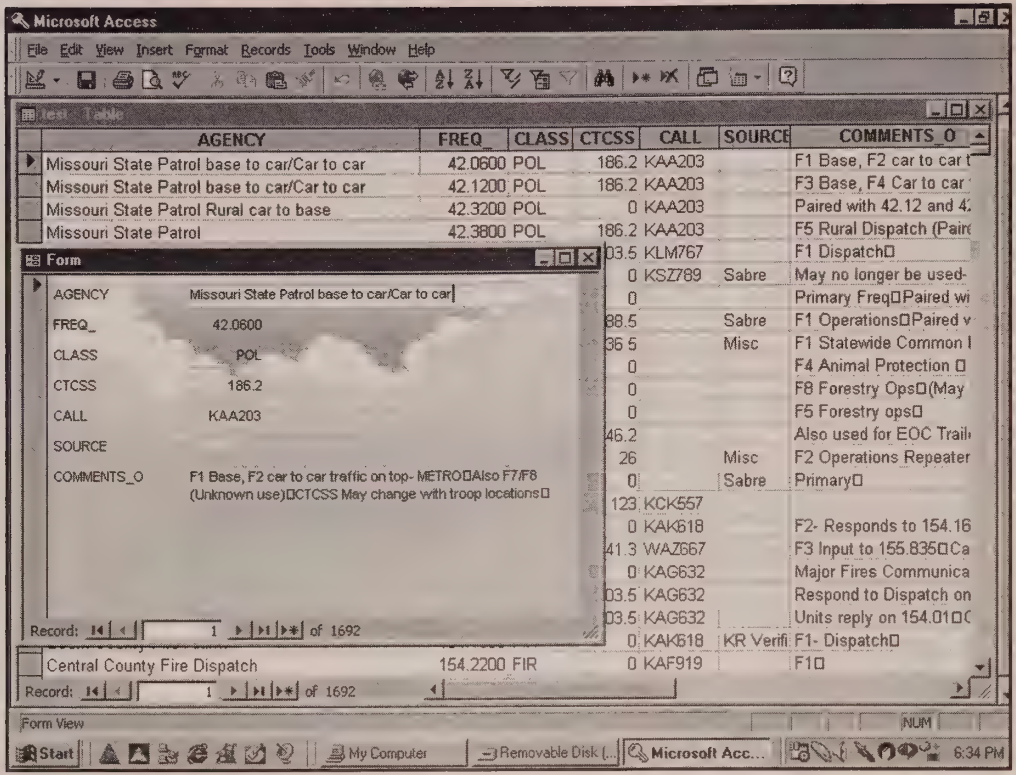
There are many different mechanisms that can cause this effect. We'll focus on the methods that affect the VHF/UHF regions of the spectrum, and I'll leave it for someone else to explain the ins and outs of AM radio propagation.

Keep in mind that not all of these methods occur with the same regularity, and that most are frequency-dependent. But first, we need a little refresher course on the atmosphere. Don't worry, there's no test — until the end.

> ***"If you're interested in finding the openings, keeping a few ham frequencies in your scanner. . . is a big help."***

The atmosphere is divided into several layers. The layer closest to the ground is the troposphere. That's what you're breathing right now. The troposphere extends to about 20 miles above the surface of the Earth, so even on airline flights, most of us will never get out of the troposphere.

It turns out that the troposphere can bend signals a bit all on its own. This is called *tropospheric refraction*, or *tropo* for short. It turns out that this refraction



AGENCY	FREQ_	CLASS	CTCSS	CALL	SOURCE	COMMENTS_O
Missouri State Patrol base to car/Car to car	42.0600	POL	186.2	KAA203		F1 Base, F2 car to car t
Missouri State Patrol base to car/Car to car	42.1200	POL	186.2	KAA203		F3 Base, F4 Car to car
Missouri State Patrol Rural car to base	42.3200	POL	0	KAA203		Paired with 42.12 and 4:
Missouri State Patrol	42.3800	POL	186.2	KAA203		F5 Rural Dispatch (Pair
			03.5	KLM767		F1 Dispatch□
			0	KSZ789	Sabre	May no longer be used-
			0			Primary Freq□Paired wi
			88.5		Sabre	F1 Operations□Paired v
			36 5		Misc	F1 Statewide Common I
			0			F4 Animal Protection □
			0			F8 Forestry Ops□(May
			0			F5 Forestry ops□
			46.2			Also used for EOC Trail
			26		Misc	F2 Operations Repeater
			0		Sabre	Primary□
			123	KCK557		
			0	KAK618		F2- Responds to 154.16
			41.3	WAZ667		F3 Input to 155.835□Ca
			0	KAG632		Major Fires Communica
			03.5	KAG632		Respond to Dispatch on
			03.5	KAG632		Units reply on 154.01□C
			0	KAK618	KR Verifi	F1- Dispatch□
Central County Fire Dispatch	154.2200	FIR	0	KAF919		F1□

Record: 1 of 1692

AGENCY	Missouri State Patrol base to car/Car to car
FREQ_	42.0600
CLASS	POL
CTCSS	186.2
CALL	KAA203
SOURCE	
COMMENTS_O	F1 Base, F2 car to car traffic on top- METRO□Also F7/F8 (Unknown use)□CTCSS May change with troop locations□

Record: 1 of 1692

Many data management systems, including programs you may already have in your system, can help with frequency management. Here's Microsoft's Access shown in both "table" and "form" view, making data entry a snap, and later referencing the information convenient. Many computer systems come pre-loaded with MS Office or one of the popular "Works" programs which often have data management capabilities.

effect is responsible for most of the long-distance signals at frequencies above 150 MHz. It's not really a bouncing of signals, but a *bending,* or *refraction,* of the signal. It works on a principle similar to the way a pencil appears to bend if you put it into a glass of water. The pencil doesn't really bend, but the light coming to your eyes certainly produces an interesting effect.

At 60 Miles

Starting at about 60 miles up is the beginning of the *ionosphere.* It is the ionosphere that gives us true skip, or refraction, of signals back to Earth. Shortwave operators use this layer all the time, but sometimes it also causes VHF signals to bounce.

The ionosphere is divided into sub-layers. The ones of particular interest to us are the *E* and *F* layers. The *F*-layer is again divided into F_1 and F_2.

E refraction, or *sporadic- E* as it is often called, is kind of a mystery. No one is quite sure what causes it, but it can occur at almost any time. Typically, *E* refraction produces a "first hop" distance of about 500 to 1,000 miles, but multiple hops can and do occur. With multiple hops, and in favorable conditions, amazing distances are possible, although for most scanner listeners with a narrow FM signal that we listen to, the first hop is about all we'll be able to detect. People who look for multiple hop openings tend to have special equipment and antennas and often work in Morse code, or upper sideband modes.

E refraction is *somewhat seasonal,* but remember it can occur at any time. It regularly works at frequencies up to 50 MHz, so the amateur 6-meter band is a good candidate to keep an eye on for activity. However, it is possible for *E*-layer skip to happen at frequencies as high as 200 MHz.

There are a couple of related, but different, modes that also take place in the *E*-layer. The first is called *ducting.* If you think about a furnace duct, you'll be very close to how this method works. A duct, or pipe, is formed in the atmosphere under certain weather conditions, but *most often just ahead of an approaching cold front.* The duct is caused by layers of air at different temperatures treating the radio wave slightly differently.

This pipe or duct can conduct very high frequency signals sometimes over very long distances. There's a fairly common duct that forms between southern California and Hawaii; about 2,500 miles. Frequencies as high as 2 GHz have been used through ducts.

The down side to ducting is that it is fairly "narrow" geographically. You might have an excellent opening from San Diego to Hawaii, but only a few miles north in Los Angeles or Orange county, there may be nothing. In other words, you have to be under one end of the pipe or nothing happens. The signals with ducting can be very strong, and can last for several hours — or minutes.

The last *E*-layer phenomenon is *tropospheric enhancement.* This is caused by a temperature inversion in the lower atmosphere. Under normal circumstances, as you go higher in altitude, the air temperature gets cooler. A temperature inversion is caused when a layer of warmer air covers a layer of colder air. Only a few degrees difference is necessary, but the effect is enhanced with greater differences. This happens frequently in the spring, summer, and fall — so just about any time except winter.

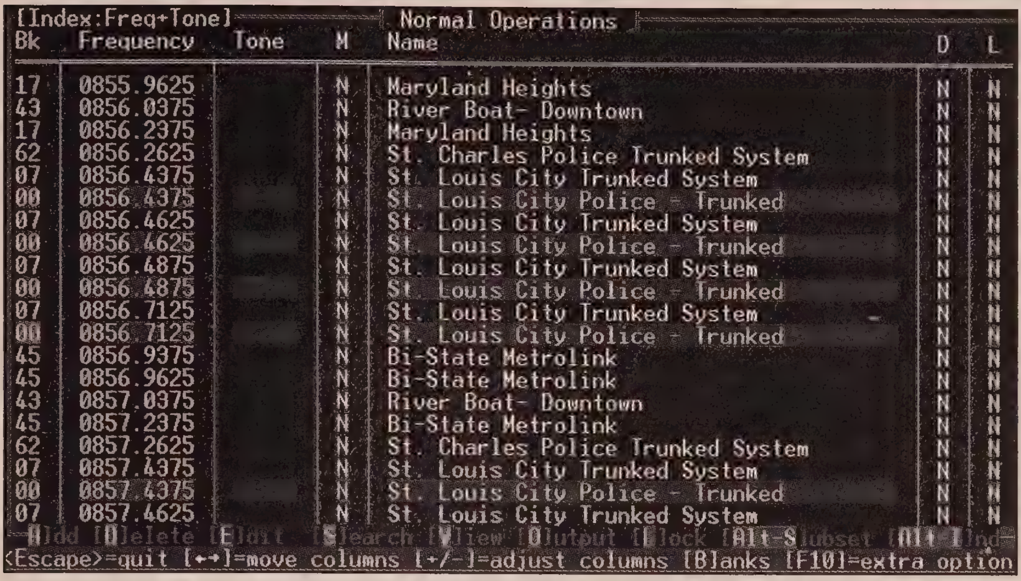
The effect of an inversion can vary greatly. A weak inversion might only strengthen signals 50 or 60 miles away. But a strong inversion can cause signals from hundreds of miles away to blast in on your radio. Look for signals in the early evening. It can last almost all night, fading away as the sun warms the upper air in the morning.

Finally, we come to the *F*-layer. *F_2 propagation* is the source of the longest distance signals, and is also the only one of the VHF propagation methods that is caused by sunspots. F_2 is primarily a *lower frequency* phenomena and really only affects the VHF low band. You won't get F_2 signals on the VHF-HI band. But you can get some very long distances if you're in the right place at the right time, and on the right frequency.

What Should You Expect To Hear?

When something is opening up, by any of these methods, you'll start to hear signals on your scanner that don't belong there. Usually, they'll be weaker than the signals you're used to listening to on those frequencies. Under extremely good conditions, your radio can pretty much go crazy with all sorts of signals that you don't normally hear. If you're interested in finding the openings, keeping a few ham frequencies in your scanner on several different bands is a big help.

Once you notice an opening, it can be a lot of fun to search up and down the band and see if you can identify any other signals that are from distant stations and where they are from. Sometimes a callsign will be given, which is the easiest way to identify the location of the station,



```
[Index:Freq+Tone]                  Normal Operations
Bk   Frequency   Tone     M   Name                                     D   L

17   0855.9625            N   Maryland Heights                         N   N
43   0856.0375            N   River Boat- Downtown                     N   N
17   0856.2375            N   Maryland Heights                         N   N
62   0856.2625            N   St. Charles Police Trunked System        N   N
07   0856.4375            N   St. Louis City Trunked System            N   N
00   0856.4375            N   St. Louis City Police - Trunked          N   N
07   0856.4625            N   St. Louis City Trunked System            N   N
00   0856.4625            N   St. Louis City Police - Trunked          N   N
07   0856.4875            N   St. Louis City Trunked System            N   N
00   0856.4875            N   St. Louis City Police - Trunked          N   N
07   0856.7125            N   St. Louis City Trunked System        -   N   N
00   0856.7125            N   St. Louis City Police - Trunked          N   N
45   0856.9375            N   Bi-State Metrolink                       N   N
45   0856.9625            N   Bi-State Metrolink                       N   N
43   0857.0375            N   River Boat- Downtown                     N   N
45   0857.2375            N   Bi-State Metrolink                       N   N
62   0857.2625            N   St. Charles Police Trunked System        N   N
07   0857.4375            N   St. Louis City Trunked System            N   N
00   0857.4375            N   St. Louis City Police - Trunked          N   N
07   0857.4625            N   St. Louis City Trunked System            N   N
-[A]dd [D]elete [E]dit [S]earch [V]iew [O]utput [B]lock [Alt-S]ubset [Alt-F]ind-
<Escape>=quit [←→]=move columns [+/-]=adjust columns [B]lanks [F10]=extra option
```

Most computer control programs also have a frequency management database included. You may find this versatile enough to meet your needs. Here's the frequency browser from Probe V4.0, which allows records to be copied or moved from one data file to another, and listings to be printed if desired.

but more often you're on your own. Once in a while, if it's a station not too far away, a road or town location might help pinpoint the area. If it's coming from some distance, good luck.

What if you don't want to listen to the skip? Good luck. Tone squelch helps considerably, if the station you're trying to hear uses it. If they don't, or if your radio is not equipped with tone, about the only other option is to turn up the squelch. It can get to the point where you squelch out a lot of the local signals too, so that might not be acceptable. Take comfort in knowing that this is a temporary situation, and will be better in a few hours.

Managing Frequency Information

As a scanner listener, the name of the game is keeping track of frequency data — or, to be more precise, *user data*. Who is using what frequency and for what purpose? And what memory position in which radio did I store that? The better a job you can do of keeping track of this essential information, the better you'll be able to program your scanner, and the more likely that you'll be able to reprogram your radio when necessary to follow a major event.

Most of us somehow manage to keep this information. But how? At the most basic level, a disorganized mess of notes and lists that other folks may have given us over time gets collected someplace. It's not pretty, but a lot of us operate that way for a long time. Sooner or later, probably at a time when you need to reprogram your scanner in a hurry, this system gets to you, making you crazy!

Probably the most basic system to get all of this organized is the good old-fashioned three-ring binder. It's a tremendous leap forward over the system above, but still can offer some challenges in finding information in a hurry. Most people I know organize their binders either by frequency or by the agencies that they are interested in monitoring. If you have a word processor to help you sort and reprint the information in several different forms, it can be helpful.

What scanner enthusiasts really need is an information handler — something that's designed to take information in and spit it back out in any number of formats. A computer database is absolutely perfect for this, but there are a couple of other methods that can be useful even if you don't have a computer.

The three-by-five (or four-by-six if you prefer) index card can go a long way towards helping out, even without a computer. The best method I've seen (and believe me there are plenty of others if you don't like this one) is to use a card for each frequency that you are interested in or have in your collection. Under that, you can write the primary user of that frequency and any other information you might have about that user. On the back, you might list notes about what you've heard, or 10-codes in use, or anything else that you might like to track. If you have more than one scanner, you might also indicate what radio has the frequency programmed into which channel.

At any time, you can re-sort the cards into another order if you prefer. As long as you consistently keep the cards filed and keep good notes, you'll find that a wealth of information builds up over a very short time. And information is the name of the game. By keeping them filed in an order that makes sense to you, you'll be able to quickly find a card and update the information as you learn or hear new things.

Computerize The Process

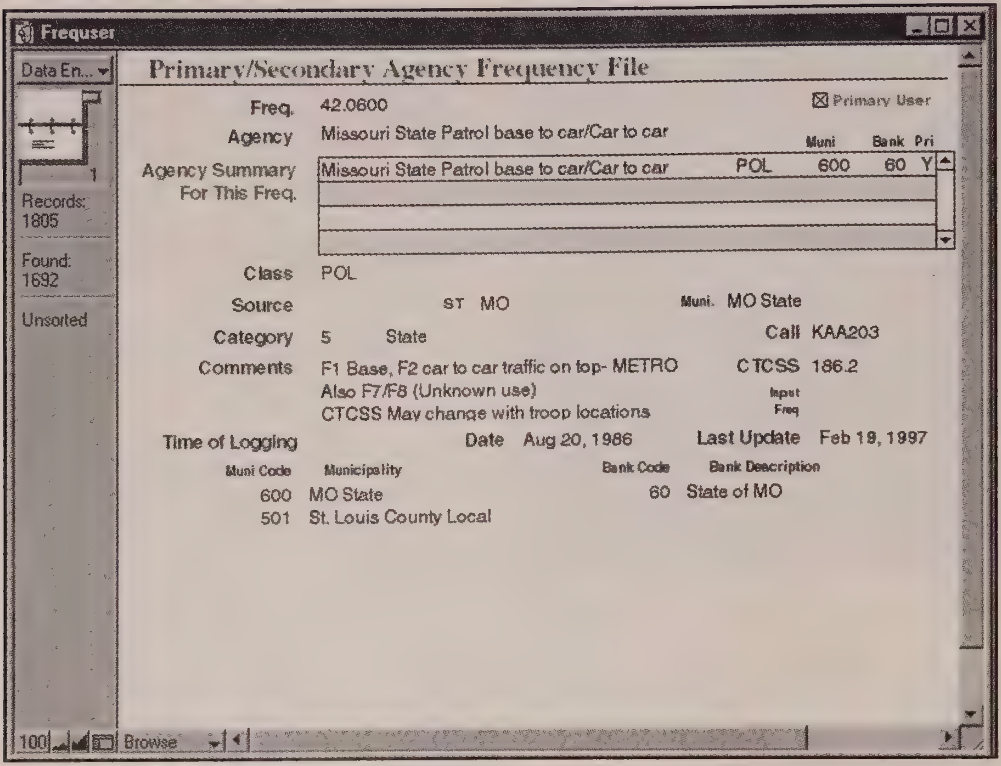
A friend of mine used to say "If you don't have a system that works, putting it on a computer will only make it not work faster." There's a lot of truth to that, and something to keep in mind as we talk about getting this moved over to the computer. A lot of different computer applications are available that will track information, some of them even specially built for scanner frequency information, but if they don't think the way you do, or don't allow enough flexibility, it's a waste of time. I'm going to focus on the programs that are generic, off-the-shelf information managers. If you find a "pre-built" system that works for you, great!

Many programs have the ability to handle information. At the most basic level, a word processor will work, although you'll have to do most of the sorting and formatting yourself. Many computers come with a program like Microsoft

WORLD FAMOUS!!
"TINY-TENNA"
Indoor Amplified Shortwave Antenna
Great for apartment/condo, traveling, camping!
(requires 9V battery or AC adapter-not included)
credit card orders welcome at:
1-517-563-2613
$19.95 (+$4 s&h)
DWM Communications
P.O. Box 87-PC, Hanover, MI 49241

Hand-Held Scanners!
MetroWest is your source for:
Hand-Held Scanners
Premium Battery Packs
Drop-In Chargers
Specialty Antennas
Books and More
SEND OR CALL FOR A FREE CATALOG: (708) 354-2125
MetroWest Inc. 822 N. Spring LaGrange Park, IL 60526
ORDERS ONLY (800) 657-1475

CIRCLE 70 ON READER SERVICE CARD



Primary/Secondary Agency Frequency File

Freq. 42.0600 ☒ Primary User
Agency Missouri State Patrol base to car/Car to car

Agency Summary For This Freq.		Muni	Bank	Pri
	Missouri State Patrol base to car/Car to car POL	600	60	Y

Class POL
Source ST MO Muni. MO State
Category 5 State
Call KAA203
Comments F1 Base, F2 car to car traffic on top- METRO
Also F7/F8 (Unknown use)
CTCSS May change with troop locations
CTCSS 186.2
Input Freq
Time of Logging Date Aug 20, 1986 Last Update Feb 19, 1997

Muni Code	Municipality	Bank Code	Bank Description
600	MO State	60	State of MO
501	St. Louis County Local		

Here's a bit more detailed data entry screen using FileMaker Pro. The fun thing about designing your own is that you get to decide how much or how little information to include and where on the screen and reports it should appear.

Works pre-installed. Some of those programs have both a word processing module and a data handler in them. Do some experimenting and see what your existing software is capable of doing.

Many people like to use a spreadsheet program like Excel or Lotus. Those work fine too, and do allow for sorting and searching information fairly rapidly. The reason I've never used one of these programs for scanner information is that they don't seem to offer enough flexibility in printing various reports, or enough room for notes and comments. A real database program works the best, although there are many types of those, too.

The first thing to consider before you even start with the computer is what kind of information and reports you want to get out of the system. How do you want it to look? What things do you want to be able to sort by? How much time are you willing to spend organizing and keeping up the system? Go back to our index card system and think about what you'd put on your cards.

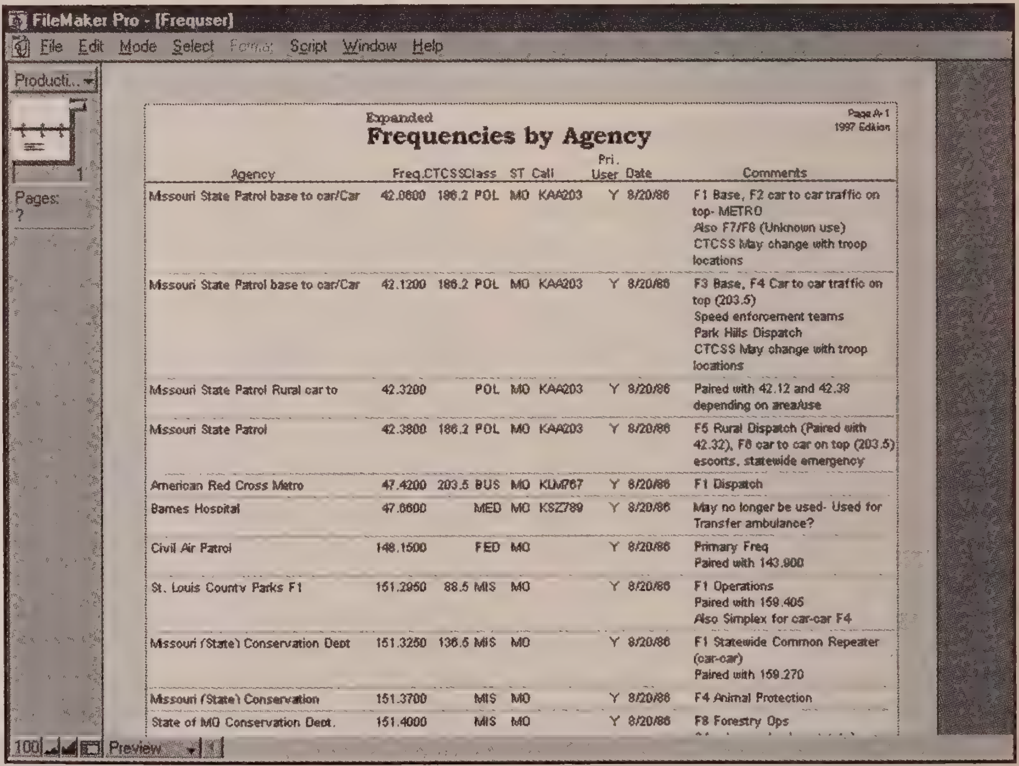
There are probably as many kinds of information and ways to store it as there are scanner listeners. Because of this, I won't even begin to give you a suggested "best" way to do it, but I can suggest a few things I've seen over the years that you might want to consider.

Of course, you'll want the frequency in question, and probably some listing of the primary agency or licensee on that frequency. You might also want to "categorize" the usage of the frequency (Police, Fire, Dispatch, Mobiles, Air, etc.). This would be useful if you ever wanted to pull up all your fire frequencies for instance.

You might also store the callsign of the agency to help you identify it later. Or maybe you want information about the input frequency for repeaters. How about any CTCSS or DCS squelch systems that are in use? What geographic area is served by this agency? And you might want the date of your last modification so you know how current the information is (some systems can enter this for you every time the record is updated). Notes or comments regarding dispatch numbers and codes that are in use can prove to be some of the most useful information to store over the long run.

One of the things that database programs can do better than any other software is *reporting* — the ability to sort and print information in a variety of ways with just a couple of mouse clicks. Some of the reports look like index cards, but printed on larger paper (although I guess if you were really dedicated, you could probably run index cards through your printer too). And just as easily, we can get "listing" reports, which look more like a page from the phone book. Those are the reports that I find most helpful.

Using almost any database software, you should be able to get a listing of any or all of the information you've put on your "card," or as database people like to call it, a "record." Each piece of information on the card — frequency, agency, callsign, etc., is referred to as a "field." Some fields, like comments and notes, for instance, may take up a fair amount



Expanded
Frequencies by Agency

Page A-1
1997 Edition

Agency	Freq.	CTCSS	Class	ST	Call	Pri. User	Date	Comments
Missouri State Patrol base to car/Car	42.0600	186.2	POL	MO	KAA203	Y	8/20/86	F1 Base, F2 car to car traffic on top- METRO Also F7/F8 (Unknown use) CTCSS May change with troop locations
Missouri State Patrol base to car/Car	42.1200	186.2	POL	MO	KAA203	Y	8/20/86	F3 Base, F4 Car to car traffic on top (203.5) Speed enforcement teams Park Hills Dispatch CTCSS May change with troop locations
Missouri State Patrol Rural car to	42.3200		POL	MO	KAA203	Y	8/20/86	Paired with 42.12 and 42.38 depending on area/use
Missouri State Patrol	42.3800	186.2	POL	MO	KAA203	Y	8/20/86	F5 Rural Dispatch (Paired with 42.32), F6 car to car on top (203.5) escorts, statewide emergency
American Red Cross Metro	47.4200	203.5	BUS	MO	KLM767	Y	8/20/86	F1 Dispatch
Barnes Hospital	47.6600		MED	MO	KSZ789	Y	8/20/86	May no longer be used- Used for Transfer ambulance?
Civil Air Patrol	148.1500		FED	MO		Y	8/20/86	Primary Freq Paired with 143.900
St. Louis County Parks F1	151.2950	88.5	MIS	MO		Y	8/20/86	F1 Operations Paired with 159.405 Also Simplex for car-car F4
Missouri (State) Conservation Dept	151.3250	136.5	MIS	MO		Y	8/20/86	F1 Statewide Common Repeater (car-car) Paired with 159.270
Missouri (State) Conservation	151.3700		MIS	MO		Y	8/20/86	F4 Animal Protection
State of MO Conservation Dept.	151.4000		MIS	MO		Y	8/20/86	F8 Forestry Ops

One of the main reasons to use a data management program is that it will allow you to output the information in many forms with very little effort. Here's a report from my FileMaker system with the records sorted by the agency that uses the frequency.

of space, or at least be quite variable depending on how much information you have on a particular agency. Some database systems will allow you to deal with this quite easily, while others won't. You might decide that you don't want to print that information on a report that lists just frequency and the primary user. Or perhaps you want to be able to run a report based on the scanner and channel number where the frequency is stored. If you've put that information into the system, you should be able to get it out rather easily.

More advanced systems, like Microsoft Access and Dbase-type programs allow you to not only store the information, but to store search criteria and report the results in a number of formats. You can also program these systems to do some very extensive searching of multiple files looking for information. For instance, it could be configured so that a frequency list of your own information, and a listing of FCC data from a CD database like Spectrum, could be compared. When you enter a frequency, it would check both and tell you what you think the frequency is, as well as any licensed users according to the FCC. Or you could find that the FCC has these licensed users, but it's a new frequency to your data.

It's cool stuff, but for the most part, unless you're into databases for fun, it's much more than we need to manage our scanner information. What we need is a computerized index card system. The database pros call this a "flat" file system. Almost any data manager will work for this, including Microsoft Access, Dbase, and those other high-end programs that can do the fancy stuff if you grow into it.

So where do you start? At the beginning, of course. Begin. Do something. Use whatever software you might have and try something. Be prepared to spend some time typing in the data. And be prepared to throw the whole thing away and start over when you figure out a better way or find another program that suits your needs better. In the meantime, you can have a lot of fun cleaning out that stack of notes you have (and probably be reminded of several things you forgot).

You might need to have a look at the manual that came with your software to figure out what it will and won't do. Some software requires that you declare in advance the type of information that will be contained in a field. Some does not. If yours does, look at the choices available to you. It should be pretty obvious as to what kind of data goes where. Frequency data should be a number (a real number if you have a choice between real and integer). Agencies, callsigns, and notes fields all need to be text based.

Some software makes a distinction between a "short" text field and a "long" one. Generally a short text field is good for agency and callsign type information (usually anything up to a certain number of characters), while a long text field is good for notes and comments that can grow and grow. Even the long text field will have some limits, but it's usually high enough that we won't be bothered for a long time. My favorite program (Filemaker Pro) has a limit of 64,000 characters in a single text field. That's about 32 pages, which I think should be adequate for most things.

Have fun with this. Yes, it's a bit of a chore to get all the data in there, but in the long run it will prove worthwhile. If you're not sure of your abilities, or your software, you might just enter a few records and play with them. See if anything becomes obvious that your system

CHEROKEE™
Introducing . . .
NightRider™ NR-100 and NR-150
CHEROKEE™
NightRider 100 and 150, back lighting with "Light Pipe" technology. Provides complete illumination of the front panel. Easiest radio to use during night driving.

For more information please call Wireless Marketing Corp. at 800-259-0959 or visit us on the web: www.wirelessmarketing.com
This model has not yet been approved by the FCC. This device is not, and may not be offered for sale or lease, or sold or leased until the approval of the FCC has been obtained.

CIRCLE 75 ON READER SERVICE CARD

The book you've been waiting for...

CQ Amateur Radio Equipment Buyer's Guide

Only $15.95 Plus $4.00 Shipping & Handling

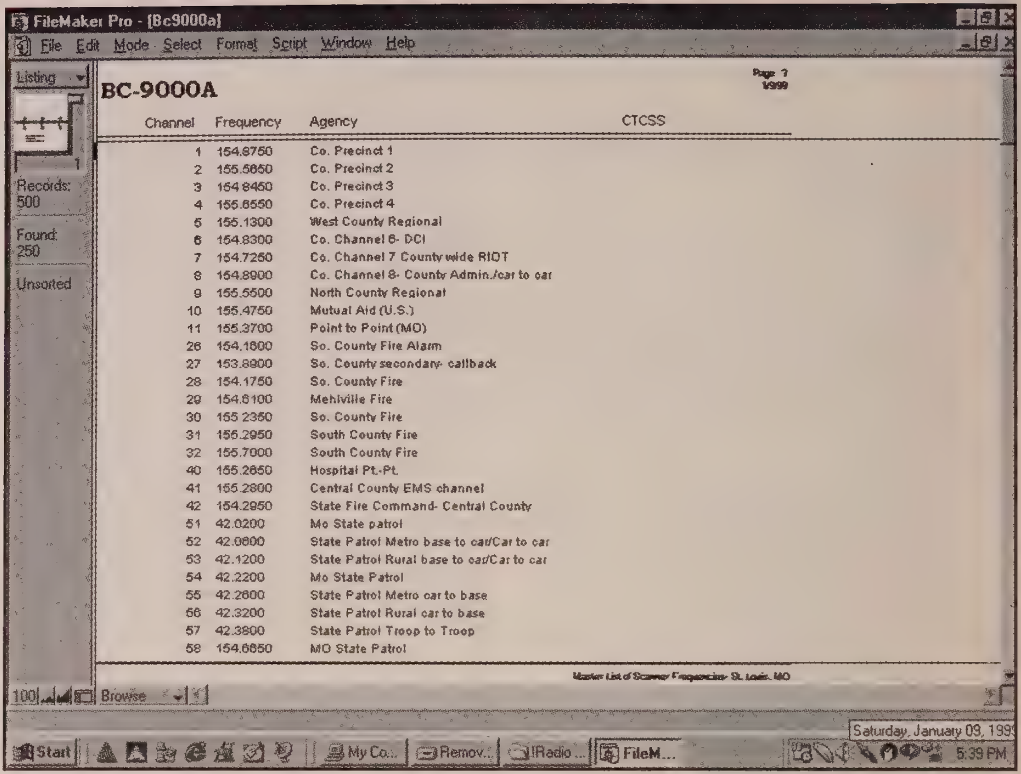
This information-packed book is your most reliable, unbiased source for detailed information on practically every piece of Amateur Radio equipment and every accessory item currently offered for sale in the United States. From the biggest HF transceiver to Ham computer software, it's in the CQ Amateur Radio Equipment Buyer's Guide, complete with specs and prices. There are over 2100 product listings (3100 including transceiver accessories!).

Product listings cover: HF Transceivers, VHF/UHF Multi-Mode Transceivers, VHF/UHF Base/Mobile Transceivers, Handheld Transceivers, Receivers and Scanners, HF Linear Amplifiers, VHF/UHF Power Amplifiers, Transceiver Accessories, Repeaters, Packet and RTTY Equipment, Amateur Television, HF Antennas, VHF/UHF Antennas, Accessories for Antennas, Antenna Rotators, Towers and Masts, Antenna Tuners, Measurement and Test Equipment, Ham Software, Training Tapes, Publications, and Miscellaneous Accessories. Thousands of products are described; many are illustrated.

The CQ Amateur Radio Equipment Buyer's Guide also includes the most comprehensive directory anywhere of Ham product manufacturers and dealers in the USA, complete with phone numbers, FAX numbers, Web sites, and e-mail addresses. Dealer and Manufacturer listings include major products manufactured or sold, and service and repair policies, where applicable, with 475 dealers and manufacturers listed. These listings alone are worth their weight in gold.

The CQ Amateur Radio Equipment Buyer's Guide is jam-packed with solid information and great reading. In addition to being an incredible source of insight into the current state of Ham Radio technology, it will continue to be a reliable Ham equipment reference source for many years to come.

For Fastest Service call 1-800-853-9797
FAX 516-681-2926
CQ Communications, Inc.
25 Newbridge Road
Hicksville, NY 11801


FileMaker Pro - [Bc9000a]
File Edit Mode Select Format Script Window Help
Listing
Records: 500
Found: 250
Unsorted
100
Browse
Start
My Co...
Remov...
!Radio ...
FileM...
Saturday, January 09, 199
5:39 PM

BC-9000A

Channel	Frequency	Agency	CTCSS
1	154.8750	Co. Precinct 1	
2	155.5650	Co. Precinct 2	
3	154.8450	Co. Precinct 3	
4	155.6550	Co. Precinct 4	
5	155.1300	West County Regional	
6	154.8300	Co. Channel 6- DCI	
7	154.7250	Co. Channel 7 County wide RIOT	
8	154.8900	Co. Channel 8- County Admin./car to car	
9	155.5500	North County Regional	
10	155.4750	Mutual Aid (U.S.)	
11	155.3700	Point to Point (MO)	
26	154.1600	So. County Fire Alarm	
27	153.8900	So. County secondary- callback	
28	154.1750	So. County Fire	
29	154.6100	Mehlville Fire	
30	155.2350	So. County Fire	
31	155.2950	South County Fire	
32	155.7000	South County Fire	
40	155.2650	Hospital Pt.-Pt.	
41	155.2800	Central County EMS channel	
42	154.2950	State Fire Command- Central County	
51	42.0200	Mo State patrol	
52	42.0600	State Patrol Metro base to car/Car to car	
53	42.1200	State Patrol Rural base to car/Car to car	
54	42.2200	Mo State Patrol	
55	42.2600	State Patrol Metro car to base	
56	42.3200	State Patrol Rural car to base	
57	42.3800	State Patrol Troop to Troop	
58	154.6650	MO State Patrol	

Master List of Scanner Frequencies- St. Louis, MO

And here's a report of what channels are supposed to be programmed into my BC-9000. Key phrase here is "supposed to" — the data is only as good as the input that you provide!

won't do before you spend all the time getting all the data entered. And see if any of your friends are using a system like this. Perhaps you can all agree on a format and software so that you can exchange data easily. Wouldn't that be just too easy?

Scanning The Web

We . . . OK, Harold (you know, the Editor dude), thought it might make some sense to add a few radio and scanning Websites to "ScanTech" once in a while. Since I can't find a reason to disagree with him (that's unusual all by itself), we have a couple this month to start us off.

Information about Filemaker, the program we were just talking about, can be found at <http://www.claris.com>. There's even a trial version of the software that you can download. It's available for both Windows and Macintosh platforms, so everyone should find something of interest there.

Another great scanner site is <http://www.policescanner.com>. This site is a central clearinghouse for scanners that you can listen to using Real Audio (there's a link directly from the site to download it if you don't already have it). There is a wide variety of scanners all over the country hooked up, and listening to the out-of-town departments can be quite interesting. One of my personal favorites is the aviation scanners in Dallas and Chicago. Check it out!

Scanning The Mail

Brad Low from Jacksonville, Texas, writes in with some first-hand experience in long distance loggings (gee, how timely). Brad says, "The loggings were made with a Bearcat 200 scanning receiver with the provided indoor telescoping antenna. The stations received were NOAA Weather Radio stations and the callsigns were noted."

Brad heard WWG55 in LaGrange, Texas, for a distance of 171 miles, WWF91 in Liano, Texas, for a distance of 218 miles, and KIH21 from Gulfport, Mississippi, a fantastic 383 miles.

Excellent catches Brad! And note that there was no special equipment used. It's just a matter of listening in the right place at the right time. Good luck!

Your Input Needed

"ScanTech" is your column. What have you done with a data system, computer, or otherwise? Send in your suggestions for fields and software. And don't forget to send in questions, information, or pictures of your shack to: Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126, or E-mail me at <armadillo1@aol.com>. Complaints can still go to Harold. ■

BY EDWARD TEACH

The Pirate's Den

FOCUS ON FREE RADIO BROADCASTING

Squeals, Parodies, And Strange Commercials In Pirateland

Here we go again! Let's get right down to business with your great pirate logs.

Radio Bob, 6955 USB monitored from 2055 to past 2110 with pops, fake commercials, and phony phone calls. QSLs via Box 24, Lula, GA 30554. (William T. Hassig, IL) At 0048, with rock, ID, and funny commercial. Another day at 2141. (Jeffery, NY)

Radio Beaver, 6955 USB at 0000 to 0004. End of program "Leave It to Beaver" theme music. QSL via Box 293, Merlin, Ontario. (Hassig, IL)

WACK Radio, 6955 USB from 2205 to 2213. Weak, with a commercial for sex toys. Gave 888-959-8177 for listeners to phone in reception reports. Another day at 0208 with funny commercials and same phone number. (Hassig, IL) 0208 to 0322. "Mission Impossible" theme, many sketches, and fake commercials, including one for "American Bimbo Collectibles." (Randy Ruger, CA) 2136 to past 2220 with music, many IDs, and phone number. (Silvi, OH)

WMPR, 6955 AM at 2156 with electronic rock. Off at 2206. No address mentioned. (Dean Burgess, MA) Very strong at 2359 with repeated IDs but no QSL address. Mannheim Steamroller and music/sound from Nintendo. ID by man "W-M-P-R" followed by three squeals — then woman saying "6-9-5-5," sometimes over the song "We Are Family." (Lee Silvi, OH)

He-man Radio, 6955 USB at 2230. Music and talk about eluding the FCC for decades, having answered 891 reception reports, operating from a secret hilltop in Ohio. Mail drop is the Blue Ridge Summit address. Off at 2245. (Burgess, MA)

Jimmy the Weasel, 6955 USB at 2245 with profanities and that He-Man Radio's broadcast was the most sorrowful broadcast he's ever heard; that there was nothing but sorry pirates out there and sorry people listening to them. Off at 2248. (Burgess, MA)

Blind Rage Radio, 6955 USB at 1542 to 1558 close. Gave the Berlin, Ontario address. (Jeffery, NY)

WPN — World Parody Network, 6955 AM at 2012. Included classical music. Off at 2053. Station gave Huntsville address.

Radio Azteca (*6955? — Ed*) at 0112 to 0125 close. ID and IS at sign-off. Weaker than usual. (Silvi, OH)

Radio Blandague, 6955 USB monitored at 0101 to 0130. Music and several IDs of what sounded like Radio Blandague. (Silvi, OH)

Mar 11 '1999 Sa ✓

Radio Metallica Worldwide, 6955 AM, tentative, very weak signal but it sounded like Dr. Tornado. (Ruger, CA)

RBCN, 6955 USB at 0048 to 0145 with skits and music. (Ruger, CA)

Take It Easy Radio, 6955 USB at 0607 to 0609 close. "Hello Radio" and "We're not going anywhere."

WEED, 6955, believed to be USB, at 0121 to 0157 with Black Flag and early '80s music. (Ruger, CA)

East Coast Beer Drinker, 6955 USB from 0202 to 0220. "Freebird" by Lynyrd Skynyrd, also talking about drinking beer. (Ruger, CA)

WRX, 6955 USB from 0002 to 0008 and 0107 to 0114 with "Jimmy the Weasel" live in concert. Also a short test from 2127 to 2128. Announced Lula mail drop. (Silvi, OH)

WBFR — Blind Faith Radio, 6955 USB, 1714 to 1733 with songs by the Doors. (Silvi, OH) At 1726, hosted by Dr. Napalm. Very weak. More Doors ("Light My Fire") and exhorted "Power to the people!" Very weak and unable to make out the address. (David Burroughs, MD) (*He probably needs more "power." — Ed*)

Radio Bingo, 6955 USB at 2147 to 2150. Bingo numbers and a couple of Dr. Tornado clips. Also 2200 to 2203, repeating bingo numbers and off with "Thank you for playing . . . Dr. Tornado . . . up here in the pirate network." (Silvi, OH) Reports on this station can be E-mailed to <Radiobingo@check.com>. Be sure to include a return address.

Unidentified — **14300 USB** from 1905 to 1944 with constant music. Variety of songs, some sounded religious. Was on for much of the day. (Silvi, OH) (*Normally I don't include many unids, but I'll make an exception for this unusual one in the middle of the ham band. — Ed*)

That covers things for this time. Please remember that I need illustrative material! QSL copies from currently active pirates would be extremely welcome. Thanks — and keep those reports headed my way.

See you again next month! ■

BY JOE CARR, K4IPV
<carrjj@aol.com>

Antennas & Things

SIMPLE ANTENNAS AND ACCESSORIES FOR SIGNAL IMPROVEMENT

Build The Monopole-Vee For Low-Frequency DXing

The low-frequency bands from the upper end of the AM broadcast band to about 7 MHz have always presented a bit of a dilemma for DXers: efficient antennas are huge. Consider the half-wavelength dipole, for example. At 2 MHz, the overall length of the antenna is 468 ÷ 2 = 234 feet long. How many people have that much space for an antenna? Darn few! So let's go the other way. Suppose we want to build a 2-MHz quarter-wavelength vertical. It would be 117-feet high. Try that one on the local zoning commission! Fortunately, there are compromises, one of which is the Monopole-Vee Antenna.

The Monopole-Vee Antenna

Figure 1 shows the Monopole-Vee Antenna in simple schematic form. This antenna is based on one reported by Bill Orr, W6SAI, and designed for the ham bands by WD0P. It is also similar to an antenna that Bill published in early editions of his *Radio Handbook*. It consists of two sections: one vertical (A) and one horizontal (B). The overall length (A+B) is quarter-wavelength, so:

Where: $A + B = \dfrac{234}{F_{MHz}}$

A is the length of the vertical section
B is the length of the sloped section
F_{MHz} is the center operating frequency in megahertz (MHz)

Let's consider some practical antenna lengths for popular bands:

BAND	A + B
1.00 MHz	234 feet
1.85 MHz	126.5 feet
3.75 MHz	62.4 feet
4.5 MHz	52 feet
5.5 MHz	42.6 feet
6.5 MHz	36 feet
7.5 MHz	31.2 feet

The vertical section can be made of 300-ohm twin-lead (if you can still find it), 450-ohm twin-lead, 600-ohm parallel line, AC "lamp cord," or any of a number of parallel wire lines. It is best to make the line using two lengths of #14 copper antenna wire spaced six-inches apart. You can make spacers from 3/8-inch dowels, or buy commercially made ceramic spacers intended for open transmission line construction. Those devices are hard to find right now, but hamfests and stores that deal in older electronics stuff often have them. Heck, you can even

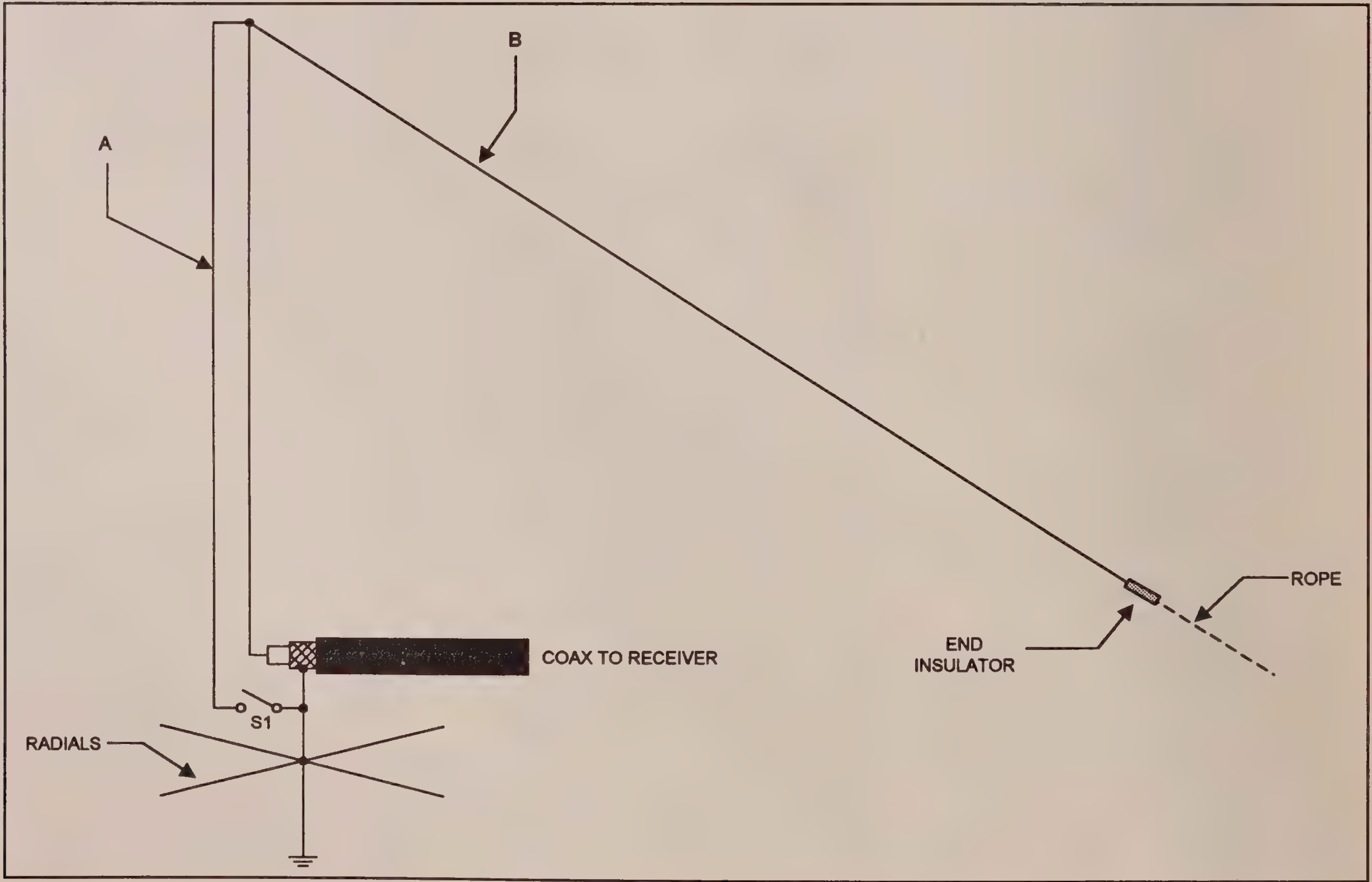


Figure 1. The Monopole-Vee Antenna in simple schematic form.

save old toothbrushes for about three years (if you follow the dentist's "three-month replacement" rule).

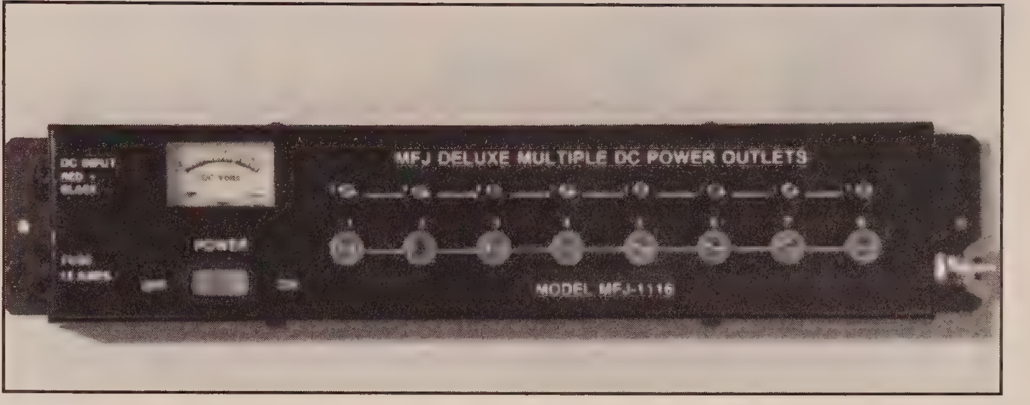


Photo 1. DC outlet strips such as this MFJ-1116 are an excellent shack accessory.

The two conductors of the vertical section ("A") are connected together at the top, and at the same point the sloping section is attached. The vertical section must be suspended from a tree, roof line, pole, or ham radio tower — as appropriate for your site.

At the bottom of the vertical section, we see that the center conductor of the coaxial cable to the receiver is connected to one of the vertical conductors. The coax shield is connected to the ground system and to switch S1. When S1 is closed, the antenna acts like a Monopole-Vee. When S1 is open, on the other hand, the antenna acts like a more-or-less random length Marconi wire antenna.

The sloping section ("B") can be either horizontal or sloped at an angle up to about 45 degrees relative to the vertical section. Set this angle and the length of "A" and "B" in order to accomplish the installation within your property limits (consistent also with safety). The far end of the sloping section is fastened to a ground-level support using an end insulator and a length of strong rope.

Ground System

The Monopole-Vee is essentially a variety of a Marconi antenna. As such, it requires a good ground to function properly. An 8 foot ground rod driven at least 7-1/2 feet into the earth should do it, but a system of radials is even better (indeed, may be necessary in sandy or other forms of low conductivity soil).

Safety Note: Wire antennas can be very hazardous! Do not install this antenna in any location where it can contact the electrical power lines. Even if both the antenna and the power line wires are insulated, it is highly probable that the antenna wire will cut into the power line wiring and cause a short. If this happens while you are holding it, you will be killed. Even if you are not killed, there is a high probability of severe damage to the power lines, and the possibility of starting a fire. Do not toss the wire over the power lines. Do not install the antenna such that it can contact the power lines if it falls, or breaks, or flails about in the wind.

An Ugly Problem Solved . . .

If you have a listening post more complex than a single receiver, then it's likely that you suffer the "ugly wall bug" problem. It is commonplace today to design electronic equipment without a DC power supply, and then provide (or have the user buy) a special transformer that has a built-in AC plug. It plugs into the wall, and contains the transformer, the plug, and fullwave rectifier. Some of them also contain a filter capacitor.

The problem is that more than one of those is not only ugly, but takes up a lot of wall socket or strip-line space. I use one of those switched/fused outlet strips that have surge suppressors built in — and more than one or two of those wall bugs takes up enough space to block out a lot of other stuff. **Photo 1** shows a DC outlet strip that allows you to connect all of those station accessories (or even some receivers) without the large number of wall bugs. A DC power supply is connected to one end, and the station accessories are connected to one of eight miniature phone jacks.

Connections

I can reached at P.O. Box 1099, Falls Church, VA, 22041, or via E-mail at <carrjj@aol.com>. I welcome your comments, criticisms, suggestions, and questions. ■

ZEIT
"ATOMIC TIME"
Time Pieces Synchronized to the US Atomic Clock
Accurate to ten billionth of a Second!

You can now have the world's most accurate time 24 hours a day. These smart clocks tune into the radio signal emitted by the US Atomic Clock in Colorado, which deviates less then 1 second over a million year period. They synchronize themselves automatically to the precise time and adjust for daylight savings. These precision ZEIT timepieces are engineered in Germany and are easy to use using the latest in radio-controlled technology. Just set the time zone and the built-in microchip does the rest.
"ZEIT Atomic Time" Precise, Reliable, Convenient

ZEIT Atomic Dual Alarm & ZEIT Atomic PC
Sleek European design with large 2 line LCD display with exact time in hours, minutes, seconds, month and date, or any two US and world times. At 8oz. ideal for travel; incl. dual alarm with nighttime illumination, time zones and lithium battery backup. Super sensitive built-in receiver. 2AA. incl. Black or Silver arch design at 5″x4″x2 1/2″ **Sale! $69.95**. Buy any two Clocks & get 20% off 2nd.
ZEIT PC with serial cable and software for WIN. Also shows UTC Time in 24 hrs mode. **Sale! $99.95**

NEW
SALE $69.95

ZEIT Atomic Wall Clock with regular or Roman numerals. For home or office. One AA Battery. Large 12″ **Only $79.95** **($99.95 in wood)**

ZEIT Atomic Watches are the world's most accurate watches. Shock-resistant polymer case with built-in receiver, hardened mineral lens, water resistant. Black or white dial & leather band. **Only $149.95**
NEW ZEIT Digital Atomic Sportswatch with UTC etc. **Just $99.95**

Call for full line of atomic clocks & watches
THE FUTURE IN TIME KEEPING
Credit Card Orders call toll free 800-339-5901 24hrs
send checks / money orders for the total amount incl. S & H $7.00 to: ATOMIC TIME, INC.
10526 W. Cermark Suite 300 West Chester, IL 60154 - Please mention promotional Code 8484 when ordering
Fax. 708.236.1205 http://www.atomictime.com

CIRCLE 61 ON READER SERVICE CARD

CB Scene

BY ED BARNAT
<Edbarnat@global2000.net>

27-MHz COMMUNICATIONS ACTIVITIES

More To Life Than Channel 6, And A Legislative Update

Darren Lamden in the United Kingdom writes to say that on a recent trip to Tampa, Florida, he got a chance to talk to some of the local operators. He was amazed that many of them did not know that there was CB in the UK. Well there are 80 CB channels between 26.965 MHz and 27.405 MHz (same as here in the U.S.) and 27.60125 MHz and 27.99125 MHz, *FM only*, at a maximum of 4 watts.

Darren also reports that in the UK, U.S. CB stations have been coming in loud and clear daily for the past year, especially on 27.025 MHz (U.S. channel 6) AM. From where he is listening, this seems to be the most popular channel stateside because of all of the "mobiles" he hears. He has tried on many occasions to talk to them, transmitting on FM and listening on AM, but can't seem to get their attention.

Well Darren, first of all, they are more than likely not *listening* on FM. You, unfortunately, because of legal restrictions in you country, can't broadcast on AM. Don't feel bad. Even if you could broadcast on AM, they probably would not answer you anyway. You see, like our President, they don't always say what they mean, and don't always mean what they say. I am afraid you are laboring under a misconception. It's not your fault though. You see, you are being intentionally misled.

Here in the States, channel 6 is the favorite frequency for a very special breed of operator. The only things "mobile" about these guys are their mouths. They run mega-watt stations, that, if truly mobile, would quite likely require tandem tractor-trailers to transport them. They would have to use one van for the radio and amplifiers and the other for electrical generators. Their claim of being mobile is part brag and part bluff. The brag is an attempt to impress listening stations, like you and me. The big bluff is to discourage the authorities from attempting to track them down. You see, like our politicians, they are just trying to protect themselves.

They have to protect themselves, you see, because they are considered to be pests by most operators around here. Channel 6 (and often several channels on either side) become unusable anytime the skip starts to run. I'll bet their geographic neighbors aren't fond of them either. There probably isn't a television or stereo for miles around that does not hear or see them whenever they key up.

Still, you do have to admire them. Often imitated, seldom duplicated, over the years, this tight clique of heavy weights has developed a highly specialized style and technique. They have been a part of our radio culture for as long as I have been listening. They seem to always be there and they all sound pretty much alike. I would not be surprised if there are only a few of them.

In reality, your chances of contacting them are extremely limited. To do it, you would not only have to be similarly equipped, but able to "talk the talk" like a native as well. Don't feel bad. I don't know anyone here in the U.S. who has actually talked with any of them either. I'd love to connect with one myself. So if any channel 6 regulars read this column, drop me a note so we can arrange for an interview.

If you would like to try to connect stateside, other than on channel 6, let me assure you that there are many of us here who would eagerly oblige you. We get a real kick out of talking to Europe. You will, however, probably have to make one very important modification to your station. You will have to add SSB (single sideband) capability.

Yes, adding SSB to a station in the UK will put you at odds with the law. It will also put you in the exciting and expanding worldwide realm of freebanding. Once there, you will not only be able to talk with operators here in the U.S., but in just about every other country in the world as well.

You won't need a monster station to do it either. Because SSB signals are so darn efficient (as compared to AM and FM), even modest transmitters (25 watts or less) and small antennas (beams not required) are sufficient for the task. Case in point: While writing this column, I overheard a neighbor (12-watt PEP and Antron 99) connect with a station in Belgium.

> ***"The only things 'mobile' about these guys are their mouths."***

If you decide to make the move to SSB, your best shot at connecting with stateside stations will be on **27.365 MHz through 27.405 MHz** (our legal channels 36 through 40) and the **Freeband** frequencies **27.415 MHz–27.995 MHz** where 27.555 USB is considered to be the international call channel.

Legislative Update

While freebanding is still illegal here in the U.S., its devotees are breathing a sigh of relief. Federal legislation that could have inadvertently increased enforcement actions against freebanding is officially dead — at least for the time being. The law, known by several names, including S. 608 and HR 2612, would have permitted state and local officials to enforce various FCC regulations as they pertain to CB radio. The goal was an admirable one: to reduce the amount of interference to radios and televisions caused by overpowered CB stations. At first glance, it appeared that members of the CB community would have an effective method of dealing with some long-standing problems.

Unfortunately, the language of the law did not target interference. Instead, the possession of "non-type accepted" equipment became the sole criteria for enforcement. That meant that anyone who had a clipped clarifier, extra channels, or an "export" radio, in other words, most sidebanders and all freebanders, would have become easy targets, whether or not they were causing interference. Particu-larly troubling was the fact that the law provided little or no protection against unscrupulous officials or malicious complaints. Our readers reported having conversations with local police departments that could hardly wait to start grabbing radios. Further, anyone who has spent anytime in the CB community could see that this would open the door for complaints based solely on personal vendettas.

While the Senate version of the bill (S. 608) was passed, similar legislation in the House (HR 2612) never came to a vote. According to Cameron Wilson, legislative aide to HR 2612's sponsor, Congressman Vernon J. Ehlers of Michigan, "All legislation introduced in the 105th Congress expired when we adjourned in December. We are talking about reintroducing the legislation again, but it will have some changes to it. We will most likely include a section that reiterates and explicitly makes clear peoples' 4th Amendment rights."

CB Mixers

Several months ago, in an attempt to promote more and better use of CB, I proposed setting aside certain times, days, and channels to look for, and hopefully find, someone to talk to and generate a little chatter on the radio. I have tried it, and it's been fun. I have even managed to snag a few conversations; one with a long-time operator whom I had never talked to before and another with an old channel mate that I had not talked to in years. So far, how-

MACO™

4091 Viscount Avenue
Memphis, TN 38118
(901) 794-9494
Fax: (901) 366-5736
Visit our Website:
www.majestic-comm.com/maco

ANTENNAS • POWER SUPPLIES • CABLE ASSEMBLIES

HIGH PERFORMANCE and MADE IN U.S.A.

ALL MACO BASE STATION ANTENNAS are made of aircraft alloy 6063-T5 aluminum tubing–.050 wall. Elements are made of harder 6005 alloy. NOTE! To prevent fatigue failure, no holes are made in any boom or element.

MACO Laser 400

Switchable Polarity 12 Element Beam

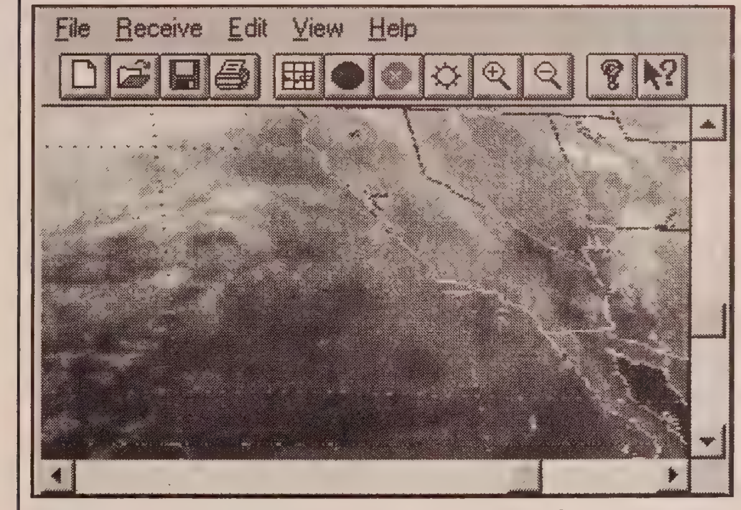
Laser 400 Specifications:

Boom Length	31'
Boom OD	2"
Number Elements	12
Longest Radius	18'
Turn Radius	17'
Surface Area	10.5 (sq. ft.)
Wind Survival	90 mph
Gain	17 dB
Power Multiplication	50X
Front-to-Back Separation	40–44 dB
Weight	52 lbs.

The 12 Element Laser is designed to achieve the maximum gain and front to back ratio using a Quad Reflector and Yagi Parasitic elements. There are six elements horizontal and six elements vertical, scientifically spaced on a 31 ft. boom. The 12 Element Laser is second only to the Super Laser 500 in performance.

Call or write for a free catalog and name of reseller near you.

CIRCLE 69 ON READER SERVICE CARD



PC HF Facsimile 8.0 $179.95
For Windows 95 & 98

SSC's best selling Fax and Telex decoding system now runs under Windows 95 and 98. Connect our new Windows FSK demodulator between your PC and SSB to receive weather fax, NAVTEX, RTTY, Amtor, ASCII, Sitor, FEC and Morse code. Receive weather and radio telex while your PC runs other software. The product includes demodulator, software, manual, frequency list and broadcast schedule. SSC also makes modems and software to receive weather satellites and SSTV. Call or write for our complete radio prodcuts catalog.

Visa and Mastercard Welcome

Software Systems Consulting

SSC

615 S. El Camino Real
San Clemente, CA. 92672
Tel: 949/498-5784
Fax: 949/498-0568
support@ssccorp.com
http://www.ssccorp.com

CIRCLE 73 ON READER SERVICE CARD

CALL TOLL-FREE
(800) 292-7711
SE Habla Español

C&S SALES
EXCELLENCE IN SERVICE

CALL FOR A FREE
64 PAGE CATALOG!
(800) 445-3201

TEKK FRS

Model PRO-SPORT
- 1/2 Watt Output, 14 Channels.
- TX LED Indicator.
- Removable Belt Clip.
- Highly Water Resistant.
- No License Required!

$68.00 each or 2 for $109.95

Both Models Available in Yellow, Blue, or Black

Model PRO-SPORT +
- 1/2 Watt Output, 14 Channels.
- TX & RX LED/LCD Indicators.
- Large LCD Display
- 38 Privacy (CTCSS) Tones
- Plus All Features of Pro-Sport Model.

$89.00 each or 2 for $149.95

DIGITAL MULTIMETER

Model M-1740
11 Functions Including Freq. to 20MHz, cap to 20µF.
2 Year Warranty

$39.95
Free Holster

MX-9300
- One Instrument With Four Test and Measuring Systems:
  - 1.3GHz Frequency Counter.
  - 2MHz Sweep Function Generator.
  - Digital Multimeter.
  - Digital Triple Power Supply
- 0-30V @ 3A, 15V @ 1A, 5V @ 2A.

$450.00

UNIVERSAL COUNTERS

Ham Radio

F-2800
- 6 Hour NiCd Battery Operation.
- High Speed 250MHz Direct Count For High Resolution.
- 16 Segment RF Signal Strength Bargraph.

F-2800 1MHz-2.8GHz $95.00

B & K Model 1875
- High Speed 300MHz Direct Count with 0.1Hz/s Resolution.
- 8 Digit LCD Display.
- Ultra Sensitive Synchronous Detector Bargraph of RF Strength.
- Low Power Consumption.

Model 1875 1MHz-3.0GHz $189.00

OSCILLOSCOPES

Standard Series
S-1325 25MHz ***$325***
S-1340 40MHz ***$475***

2 FREE probes with each scope!!

- TV Sync
- 1mV Sensitivity
- X-Y Operation
- High Luminance 6" CRT
- Complete Schematic
- Plus much, much more!!

KIT CORNER over 100 kits available

Model AR-2N6K
2 Meter / 6 Meter Amateur Radio Kit
$34.95

Model M-1005K
Low cost, 3 1/2 digit LCD, 18 ranges, transistor test, diode test, overload protection and pocket size
$19.95

Model AK-200
Stereo Cassette Player Kit
- Transparent case
- High resolution

$14.95

Model AM/FM-108K
AM/FM Radio Kit and Training Course
$29.95

WE WILL NOT BE UNDERSOLD
UPS SHIPPING: 48 STATES 5%
OTHERS CALL FOR DETAILS
IL Residents Add 8.25% Sales Tax

C&S SALES
150 W. CARPENTER AVENUE
WHEELING, IL 60090
FAX: (847) 541-9904
(847) 541-0710

15 DAY MONEY BACK GUARANTEE
FULL FACTORY WARRANTY
PRICES SUBJECT TO CHANGE WITHOUT NOTICE
http://www.elenco.com/cs_sales
ALL MAJOR CREDIT CARDS ACCEPTED

CIRCLE 64 ON READER SERVICE CARD

SE SIGNAL ENGINEERING'S
High Performance CB & 10 Meter Antennas

SUPERHAWK

WHITE LIGHTNING
THE Four Element Antenna

LIGHTNING 6

Goldenrod
45 Spyder A+
Broadband Hi powered MOBILE

THUNDER 8
Hi Gain
Bi-Directional
OMNI
Electronically Steerable

And, also, NEW QUAD LIGHTNING 8 THE most POWERFUL CB base in the world today!

ALL SE PATENTED rotary beams are true quads and OUTPERFORM their counterparts (quad/yagi types). SE's patented SFS matching system makes SE QUADS the most technologically advanced antennas in the world today.
If your dealer doesn't have SIGNAL ENGINEERING, write or call for full specs. DEALER inquiries invited.
MasterCard, VISA, AMEX, Discover

SIGNAL ENGINEERING
1172 Aster Avenue, #E, Sunnyvale, CA 94086
Phone: (408) 247-2300

Use Your FREE Reader Service Card For More Information On Companies Advertising In This Issue.

Bill's 2 Way
CB Radio Equipment
uniden KENWOOD RELM CHEROKEE Cobra maxon
FREE CATALOG!
"We are the DISCOUNT LEADER in sales of scanners, FRS, CB, GMRS radios and accessories."
1-888-710-4094
Bill's CB & 2-Way Radio Service
PO Box 306, Morgan Hill, CA 95038-0306
Tech Line: (408) 782-0064 FAX: (408) 782-2985
e-mail:sales@bills2way.com
Website: http://www.bills2way.com

CIRCLE 63 ON READER SERVICE CARD

> ***"Federal legislation that could have inadvertently increased enforcement actions against freebanding is officially dead — at least for the time being."***

ever, I have not made contact with any newbies. From the mail I have been getting, some of you have also been working the mixer and having a good time. Response to this idea from readers of this column has been very positive. Thank you.

Since this is a relatively new and largely untried idea on CB, there have been a number of suggestions for improvement. So, once again this month, we will make a few needed changes.

First on the list is to establish a more regular schedule. While it may be too early to start scheduling *weekly* mixers, setting aside one day a month seems to be in order. So mark your calendars for the last Saturday of each month.

Bob Davis says that he would like to participate but is not sure if the time (9 p.m.) is Eastern, Central, Mountain, or Pacific. Well, Bob, since CB is largely a local medium, all times are local. To help minimize confusion, I will make sure to mention that in the future.

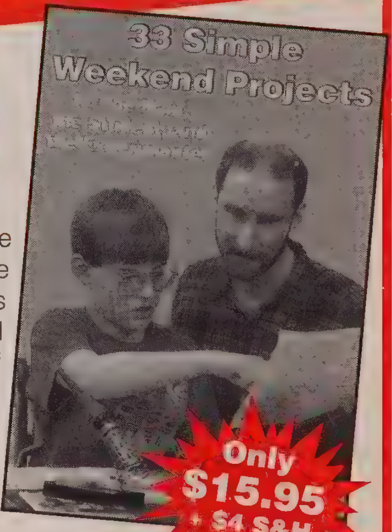
Finally, several readers were kind enough to point out that there are still quite a few operators who are running 23-channel radios. They suggest that to open the mixers to as many people as possible, the AM channel should be changed to channel 23. I agree. Please note the changes in this month's announcement.

May And June Mixers

So, if you are looking for a little chatter on the CB, plan on attending the next, now regularly scheduled, on-air CB Mixer. They are held on the last Saturday of the month (the next two will be on the 29th of May and 26th of June) from 9 until 10 p.m. local time. SSB operators should work channel 36 LSB; AM operators work channel 23. For complete guidelines see the November 1998 issue of *Popular Communications* or drop me a note.

Well, that is it for now. Thanks for writing me here at the magazine or via the Internet where my address is <edbarnat@global2000.net>. And as always, if you can (especially on May 29th and June 26th) — catch me on the radio! 73 — Ed

from CQ 33 Simple Weekend Projects



ALL NEW FUN FROM DAVE INGRAM, K4TWJ!

"33 Simple Weekend Projects for the Ham, the Student, and the Experimenter" gives only a hint at the fun and satisfaction to be found between the covers of this little book. Dave Ingram, K4TWJ, has pulled together a wide ranging collection of do-it-yourself electronics projects from the most basic to the fairly sophisticated, and even touching on the frivolous.

You'll find an interesting and very do-able array of useful devices: station accessories for VHF FMing, working OSCAR satellites, joining the fun on HF, trying CW, building simple antennas, even a complete working HF station you can build for $100.

Add a measure of practical tips and techniques on how to build electronic projects yourself, and you've got an information-packed book that will keep the newcomer or the most experienced home-brewer busy for many a pleasant weekend.

Only $15.95 + $4 S&H

Please phone or fax your orders to:

CQ Communications, Inc.
25 Newbridge Road, Hicksville, NY 11801
Phone: 516-681-2922/Fax: 516-681-2926
or call toll-free 800-853-9797

Tap into secret Shortwave Signals

Turn mysterious signals into exciting text messages with this new MFJ MultiReader™

MFJ-462B
$179.95

Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.

Then *watch* mysterious chrips, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR(FEC) turn into exciting text messages as they scroll across your easy-to-read LCD display.

You'll *read* interesting commerical, military, diplomatic, weather, aeronautical, maritime and amateur traffic . . . traffic your friends can't read -- unless they have a decoder.

Eavesdrop on the World

Eavesdrop on the world's press agencies transmitting *unedited* late breaking news in English -- China News in Taiwan, Tanjug Press in Serbia, Iraqui News in Iraq -- all on RTTY.

Copy RTTY weather stations from Antarctica, Mali, Congo and many others. Listen to military RTTY passing traffic from Panama, Cyprus, Peru, Capetown, London and others. Listen to hams, diplomatic, research, commercial and maritime RTTY.

Listen to maritime users, diplomats and amateurs send and receive error free messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime -- from all over the world -- Australia, Russia, Hong Kong, Japan, Egypt, Norway, Israel, Africa.

Printer Monitors 24 Hours a Day

MFJ's exclusive *TelePrinterPort™* lets you monitor any station 24 hours a day by printing their transmissions on your Epson compatible printer.

Printer cable, **MFJ-5412**, $9.95.

MFJ *MessageSaver™*

You can save several pages of text in 8K of memory for re-reading or later review .

High Performance Modem

MFJ's high performance *phaselock loop* modem consistently gives you solid copy -- even with weak signals buried in noise. New threshold control minimizes noise interference -- greatly improves copy on CW and other modes.

Easy to use, tune and read

It's easy to use -- just push a button to select modes and features from a menu.

It's easy to tune -- a precision tuning indicator makes tuning your receiver easy for best copy.

It's easy to read -- the 2 line 16 character LCD display with contrast adjustment is mounted on a sloped front panel for easy reading.

Copies most standard shifts and speeds. Has *MFJ AutoTrak™* Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, $12.95. 5 1/4x2 1/2x5 1/4 inches.

No Matter What Warranty

You get MFJ's famous one year *No Matter What™ unconditional* warranty. That means we will repair or replace your *MFJ MultiReader™* (at our option) *no matter what* for a full year.

Try it for 30 Days

Order an *MFJ-462B MultiReader™ from* MFJ and try it in your own setup -- compare it to any other product on the market regardless of price.

Then if you're not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping).

Order today and try it -- you'll be glad you did.

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a "first rate easy-to-operate active antenna . . . quiet . . . excellent dynamic range . . . good gain . . . low noise . . . broad frequency coverage."

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz to 30 MHz.

Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna. 6x3x5 in. remote has 54 inch whip, 50 ft. coax. 3x2x4 in. 12 VDC or 110 VAC with MFJ-1312, $12.95.

$129.95 MFJ-1024

Indoor Active Antenna

MFJ-1020B
$79.95

Rival outside long wires with this *tuned* indoor active antenna. *"World Radio TV Handbook"* says MFJ-1020 is a "fine value . . . fair price . . . best offering to date . . . performs very well indeed."

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as preselector with external antenna. Covers 0.3-30 MHz. Has Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Compact Active Antenna

MFJ-1022
$39.95

Plug this new *compact* MFJ all band active antenna into your general coverage receiver and you'll hear strong clear signals from all over the world from 300 KHz to 200 MHz -- including low, medium, shortwave and VHF bands.

Also improves scanner radio reception on VHF high and low bands.

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, $12.95. 3 1/8x1 1/4x4 in.

Eliminate power line noise!

MFJ-1026
$169.95

New! *Completely* eliminate power line noise, lightning crashes and interference *before they get into your receiver!* Works on all modes -- SSB, AM, CW, FM, data -- and on all shortwave bands. Plugs between main external antenna and receiver. Built-in active antenna picks up power line noise and cancels undesirable noise from main antenna. Also makes excellent active antenna.

MFJ Antenna Matcher

MFJ-959B
$99.95

Matches your antenna to your receiver so you get maximum signal and minimum loss.

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Pushbuttons let you select 2 antennas and 2 receivers. Cover 1.6-30 MHz. 9x2x6 inches. Use 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Dual Tunable Audio Filter

MFJ-752C
$99.95

Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

High-Gain Preselector

MFJ-1045C
$69.95

High-gain, high-Q receiver preselector covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Pushbuttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18VDC or 110 VAC with MFJ-1312, $12.95.

Receive CW, RTTY, ASCII, Weather Maps, News Photos

MFJ-1214PC
$149.95

Use your computer and radio to receive and display *brilliant full color* FAX news photos and incredible WeFAX weather maps. Also RTTY, ASCII and Morse code.

Animate weather maps. Display 10 global pictures simultaneously. Zoom any part of picture or map. Frequency manager lists over 900 FAX stations. Automatic picture saver.

Includes interface, easy-to-use menu driven software, cables, power supply, comprehensive manual and *Jump-Start™* guide. Requires 286 or better computer with VGA monitor.

High-Q Passive Preselector

MFJ-956
$39.95

The MFJ-956 is a *high-Q* passive LC preselector that lets you boost your favorite stations while rejecting images, intermod and other phantom signals. Covers 1.5-30 MHz. Has preselector bypass and receiver grounded pos. 2x3x4 inches.

Super Passive Preselector

MFJ-1046
$99.95

New! **Improves** any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q *series tuned* circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband loss. Air variable capacitor with vernier. 1.6-33 MHz.

Easy-Up Antennas Book

MFJ-38
$16.95

How to build and put up inexpensive, fully tested wire antennas using readily available parts that'll bring signals in like you've never heard before. Antennas from 100 KHz to 1000 MHz.

MFJ 12/24 Hour LCD Clocks

MFJ-107B
$9.95

MFJ-108B
$19.95

MFJ-105C
$19.95

MFJ-108B, dual clock displays 24 UTC and 12 hour local time *simultaneosly*. **MFJ-107B**, single clock shows you 24 hour UTC time. *3 star rated* by *Passport to World Band Radio*!

MFJ-105C, accurate 24 hour UTC quartz *wall clock* with large 10 inch face.

MFJ Antenna Switches

MFJ-1704
$59.95

MFJ-1702C
$21.95

MFJ-1704 heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection device. Good to 500 MHz. 60 dB isolation at 30 MHz.

MFJ-1702C for 2 antennas.

World Band Radio Kit

MFJ-8100K
$59.95 *kit*

MFJ-8100W
$79.95 *wired*

Build this *regenerative* shortwave receiver *kit* and listen to shortwave signals from all over the world with just a 10 foot wire antenna.

Has RF stage, vernier reduction drive, smooth regeneration, five bands.

Free MFJ Catalog

Write or Call tollfree . . . 800-647-1800

Orders/Nearest Dealers: 800-647-1800

Technical Help: 601-323-0549

•1 year *No Matter What™* limited warranty •30 day money back guarantee (less s/h) on orders from MFJ

MFJ

MFJ ENTERPRISES, INC.
Box 494, Miss. State, MS 39762
(601) 323-5869; 8-4:30 CST, Mon.-Fri.
FAX: (601) 323-6551; **Add s/h**

WEB: http://www.mfjenterprises.com

MFJ . . . the world leader in shortwave accessories

Prices and specifications subject to change © 1998 MFJ Enterprises, Inc.

CIRCLE 120 ON READER SERVICE CARD

Pop'Comm's World Band Tuning Tips

May 1999

This listing is designed to help you hear more shortwave broadcasting stations. The list includes a variety of stations, including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions, and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

UTC	Freq.	Station/Country	Notes
0000	5960	Radio Canada Int'l	
0000	6055	Radio Exterior de Espana, Spain	
0000	11620	All India Radio	
0020	11905	Sri Lanka Broadcasting Corp.	vern.
0030	4472	Radio Movima, Bolivia	SS
0030	6025	Radio Amanecer, Dominican Republic	SS
0030	6726	Radio Satelite, Peru	SS
0030	9022	Voice of the Islamic Rep. of Iran	
0030	13695	Radio Thailand	
0100	3300	Radio Cultural, Guatemala	
0100	4955	Radio Nacional, Colombia	SS
0100	5030	Adventist World Radio, Costa Rica	SS
0100	5077	Caracol Colombia	SS
0100	5770	Radio Miskut, Nicaragua	SS
0100	5905	Radio Ukraine Int'l	
0100	6200	Radio Prague, Czech Rep.	
0100	7105	Radio Tashkent, Uzbekistan	
0100	7450	Voice of Greece	Greek/EE
0100	9735	Radio Nacional de Paraguay	SS
0100	9965	Voice of Russia, via Armenia	SS
0100	11690	Voz Cristiana, Chile	SS
0130	3210	Radio Exterior de Espana, Spain, via Costa Rica	SS
0130	3250	Radio Luz y Vida, Honduras	SS
0130	7205	Radio Ukraine Int'l	
0200	3250	La Voz del Napo, Ecuador	SS
0200	4825	Radio Cancao Nova, Brazil	PP
0200	4980	Ecos del Torbes, Venezuela	SS
0200	5025	Radio Rebelde, Cuba	SS
0200	6155	Radio Canada Int'l	
0200	6170	Radio Cultura, Brazil	PP
0200	7495	Reshet Bet, Israel	HH
0200	9475	Radio Cairo, Egypt	
0200	9885	Swiss Radio Int'l	
0200	11705	Radio Havana, Cuba	
0200	11710	RAE, Argentina	SS/EE
0200	11765	RAI, Italy	II
0200	11780	Radio Nacional Amazonia, Brazil	PP
0200	11800	RAI, Italy	II

UTC	Freq.	Station/Country	Notes
0200	17675	Radio New Zealand Int'l	
0230	3340	Radio Altura, Peru	SS
0230	5950	Voice of Vietnam, via Russia	
0230	6020	Radio Budapest, Hungary	
0230	6115	Radio Tirana, Albania	
0230	6120	Radio Vilnius, Lithuania, via Germany	
0230	9495	Radio Sweden	
0230	9605	Vatican Radio	FF
0300	3306	Zimbabwe Broadcasting Corp.	EE/vern.
0300	4819	La Voz Evangelica, Hondureas	SS/EE
0300	4830	Radio Tachira, Venezuela	SS
0300	7110	Radio Free Iraq, USA, via Greece	AA
0300	7345	Radio Prague, Czech Rep.	
0300	7375	Radio Bulgaria	
0300	9525	Channel Africa, South Africa	
0300	9715	Radio Portugal Int'l	PP
0300	11815	Radio Brazil Central	PP
0330	4885	Radio Clube do Para, Brazil	PP
0330	6940	Radio Fana, Ethiopia	vern.
0330	9820	Radio Havana, Cuba	
0330	9895	Merlin Network One, England	
0330	15170	Radio Tahiti	FF
0345	11620	Radio Tajikistan	
0400	3270	Namibia Broadcasting Corp.	
0400	4915	Radio Cora, Peru	SS
0400	4985	Radio Brazil Central	PP
0400	5990	Radio Romania Int'l	
0400	6010	Voice of Turkey	
0400	6115	Radio Union, Peru	SS
0400	6165	Radio Netherlands, via Neth. Antilles	
0400	6265	Radio Zambia	EE/vern.
0400	9505	Radio Austria Int'l, via Canada	
0400	9560	Voice of Ethiopia	vern.
0400	11940	Radio Romania Int'l	
0430	4919	Radio Quito, Ecuador	SS
0500	4770	Radio Nigeria	
0500	7255	Voice of Nigeria	
0500	7465	Kol Israel	

UTC	Freq.	Station/Country	Notes
0500	9560	China Radio Int'l, via Canada	
0500	11585	Kol Israel	HH
0530	4815	Radio Burkina, Burkina Faso	FF
0530	4850	Cameroon Radio TV	FF/EE
0530	4870	ORTB, Benin	FF
0530	4996	Radio Andina, Peru	SS
0600	4775	Radio Liberal, Brazil	PP
0600	4845	Radio Mauritanie, Mauritania	FF
0600	4915	Ghana Broadcasting Corp.	EE
0600	5047	Radio Lome, Togo	FF
0600	5100	Radio Liberia	
0600	6185	Radio Educacion, Mexico	SS/EE
0630	3985	Italian Radio Relay Service	(SSB)
0630	5011	Radio Cristal, Dominican Republic	SS
0630	9375	Voice of Greece	Greek
0630	9715	Radio Oman	AA
0700	5020	Solomon Islands Broadcasting Corp.	
0700	5054	RFO, French Guiana	FF
0730	3290	Voice of Guyana, Guyana	
0800	6010	Radio Mil, Mexico	SS
0800	6150	Radio Record, Brazil	PP
0830	4960	Radio Vanuatu, Vanuatu	FF/EE/vern.
0830	9940	Radio Vlaanderen, Belgium	
0930	4950	Radio Baha'I	SS
0930	11635	Far East Broadcasting Corp., Philippines	
1000	4970	Radio Rumbos, Venezuela	SS
1030	9700	Radio New Zealand Int'l	
1100	3313	Radio Manus, Papua New Guinea	
1100	3360	La Voz de Nahuala, Guatemala	SS
1100	4770	Centinela del Sur, Ecuador	SS
1100	4800	XERTA, Mexico	SS/EE
1100	4835	Radio Tezulutlan, Guatemala	SS
1100	4890	NBC, Papua New Guinea	
1100	5055	Faro del Caribe, Costa Rica	SS
1100	5850	Sunrise Radio, via Germany	
1100	6195	BBC via Antigua	
1100	7295	Radio TV Malaysia	
1100	9325	Radio Tampa, Japan	JJ
1100	9915	Merlin Network One, England	
1130	3220	HCJB, Ecuador	SS/QQ
1130	4754	Radio Republik Indonesia, Ujung Pandang	II
1130	5965	BBC, via Canada	
1130	9525	Voice of Indonesia	II
1200	3325	Radio Maya, Guatemala	vern.
1200	5975	Radio Tashkent, Uzbekistan	
1200	6050	HCJB, Ecuador	SS
1200	9345	Radio Pyongyang, North Korea	KK
1200	15700	Radio Bulgaria	
1230	6015	Radio Singapore	
1230	9165	Radio Dada Gorgud, Azerbaijan	vern.
1230	9810	Radio Thailand	
1230	12085	Voice of Mongolia	
1230	21510	Radio Ukraine Int'l	
1300	6020	Radio Australia	
1300	7365	KNLS, Alaska	
1300	9515	BBC, England, via Canada	
1300	12020	Voice of Vietnam	
1300	17745	Radio Romania Int'l	
1300	21530	Channel Africa, South Africa	
1330	9580	Radio Australia	
1330	17660	Radio Finland Int'l	
1330	17715	Radio Canada Int'l	
1330	17730	Deutsche Welle/Voice of Germany	GG
1330	17815	Voice of Turkey	

UTC	Freq.	Station/Country	Notes
1330	17860	Radio Japan/NHK World	JJ
1350	13765	Vatican Radio	
1350	15500	Vatican Radio	
1400	11595	Radiophonikos Stathmos Makedonias, Greece	Greek
1400	15465	Radio Pakistan	
1400	17680	Voz Cristiana, Chile	SS
1430	11930	Radio Marti, USA	SS
1430	13740	Radio Sweden	
1430	17870	Radio Sweden	
1500	9505	Radio Japan/NHK World	
1500	11705	Radio Japan, via Canada	JJ
1500	15400	Radio Finland Int'l	FF
1500	17630	Merlin Network One, England	
1530	9495	KFBS, Saipan, No. Marianas	CC
1530	15160	Broadcasting Svc. of Kingdom of Saudi Arabia	AA/EE
1530	15640	Kol Israel	
1600	9705	Radio Mexico Int'l	
1600	11615	Radio France Int'l	FF
1600	11690	Radio Jordan	
1600	11705	Far East Broadcasting Assn., Seychelles	vern.
1600	11750	Qatar Broadcasting Service	AA
1600	15160	Radio Algiers Int'l, Algeria	EE/AA
1600	15435	Radio Jamahiriya, Libya	AA
1630	9770	UAE Radio	AA
1630	15395	UAE Radio, Dubai	
1700	9200	Radio Omdurman, Sudan	AA
1700	9580	Africa No. One, Gabon	FF
1700	15715	RTBF, Belgium, via Germany	FF
1700	18910	Radio Norway Int'l	NN
1730	12130	Adventist World Radio, via South Africa	
1800	9780	Republic of Yemen Radio	AA/EE
1800	15345	RTV Morocaine, Morocco	AA
1800	17870	Channel Africa, South Africa	
1830	11570	Radio Pakistan	vern.
1830	11734	Radio Tanzania — Zanzibar	AA
1830	11990	Radio Kuwait	AA/EE
1830	15150	Voice of Indonesia	
1900	7535	Icelandic State Broadcasting Service	Icelandic (SSB)
1900	15120	Voice of Nigeria	EE/others
1900	15485	Voice of Greece	Greek
1900	17820	Radio Canada Int'l	
1930	9510	Trans World Radio, Swaziland	EE/vern.
1930	11635	Radio Denmark, via Norway	DD
1930	15115	HCJB, Ecuador	
2000	11910	Swiss Radio Int'l, via Germany	
2030	11715	Radio Algiers Int'l, Algeria	
2130	7105	Radio Minsk, Belarus	
2130	12085	Radio Damascus, Syria	
2200	9990	Radio Cairo, Egypt	
2200	11815	Voice of Africa/Radio Jamahiriya, Libya	
2200	15345	Radio Nacional, Argentina	SS
2230	9985	Radio Taipei Int'l, Taiwan, via USA	
2300	7300	Voice of Turkey	TT
2300	7520	Radio Moldova Int'l	
2300	9900	Radio Minurca, Central African Republic	
2300	11335	Radio Pyongyang, North Korea	
2300	15130	Radio Pyongyang, North Korea	
2330	5975	BBC, via Antigua	
2330	11975	China Radio Int'l, via Mali	CC

BY HAROLD ORT
AND R.L. SLATTERY

Product Parade

REVIEW OF NEW, INTERESTING AND USEFUL PRODUCTS

Carrying Case For MFJ's Pocket Morse Code Tutor

The MFJ-418 needed a protective carrying case, so the enterprising folks at MFJ made one. The soft, hand-stitched leather carrying case has a clear, protective plastic LCD cover, Velcro closure, hole punchouts for three-button operation, earphone, and thumbwheel volume control. The MFJ-26 protects your MFJ-418 from casual bumps and scratches.

The only reason you'll have to take the Pocket Morse Code Tutor out of the case is to charge the battery! All buttons and controls are operational while the MFJ-418 is in the case. A strong hard plastic pocket/belt clip is specially hand-sewn and fitted on the back of the case, so it can lock onto your pants or shirt pocket, belt, or car visor. It makes mobile operation safe and easy when clipped to your visor, allowing you to concentrate on listening to the Morse Code and not on whether you're going to lose your Tutor or drop it on the floor.

MFJ's new protective leather case for the Pocket Morse Code Tutor.

MFJ's Pocket Morse Code Tutor leather carrying case is covered by MFJ's famous No Matter What one-year limited warranty, meaning that MFJ will repair or replace (at their option) your product for one complete year.

To order, or for your nearest dealer, call 800-647-1800 or FAX 601-323-6551. It's only $12.95. You can also E-mail MFJ at <mfj@mfjenterprises.com>. Be sure to check out their Website at <http:www. mfjenterprises.co>.

CIRCLE 100 ON READER SERVICE CARD

More Than 2,000 Scanner, CB, And Ham Diagrams & Modifications!

Here's one of those great how-to books from the legendary communications *underground.* It's the kind of guide everyone wants, but only a few seem to know how to obtain. This one is 232 pages thick and appropriately titled the *Mind*

DEDICATED TO THE SCANNING AND SHORTWAVE ENTHUSIAST. WE'RE MORE THAN JUST SOFTWARE!

CAT-5000

Only $99.95 + s & h

SPECTRUM ANALYSIS ON YOUR PC

- **With the addition of AOR's SDU-5000 Spectrum Analyzer** and this *NEW* Windows Software any radio that has a 10.7MHz IF output will give you full computer controllable spectrum analysis.
- Plus, with the listed radios below, you can have a complete computerized control of receive frequency, direct frequency readout, and a spectrum bandwidth (variable from 500KHz to 10 MHz).
- Just use your mouse to "arm chair" the controls. Never touch the radio once the software is running.

Supports

- AR3000A, 5000
- R7000, R7100 ICOM
- Most ICOMs with 10.7MHz IF.

Features *indicates for above listed radios only.

- Variable bandwidth, up to 10.7 MHz.*
- Instant Readout of Frequency any place on the PC's Display.
- Instant change of center frequency with a simple mouse click. *
- Save Spectrum data to disk. Playback of Recorded Spectrum data from disk.
- Signal Averaging, **PLUS** our exclusive "VARI-COLOR" Analysis.
- Variable Peak Readout.
- **THREE** different graphical analysis modes.
- Download our demo for test drive.

Minimum Requirements • IBM PC 8 meg ram. • Windows 3.1 or later. • 8 meg Hard Drive

COPYCAT-PRO

The ONLY Commercially Available Computer Control Program for the Universal M-7000 & M-8000. Also, AEA's PK-232 and the MFJ-1278

COPY-CAT PRO FEATURES →

- 32K incoming text buffer.
- Runs on any 640K PC-Compatible.
- Control BOTH you TNC and radio simultaneously!
- Multiple pop-up windows for HELP, frequency files, and text editor.
- Supports ALL SCANCAT files.
- Download our demo for test drive.

Discover our revolutionary COMPUTER CONTROL PROGRAM for the M-7000, M-8000, PK-232, and MFJ-1278. Let COPYCAT-PRO free you FOREVER from remembering all those buttons and keys. COPYCAT-PRO does it all. Simple "PULL-DOWN" menus control all functions. Fully editable text buffer, 20 PROGRAMMABLE" memus and much more.

COPYCAT-PRO $79.95, UPGRADES $24.95 S/H $5.00 ($7.50 Foreign)
Specially wired cable for the M-7000/8000 $24.95

CAT-WHISKER

TIRED OF YOUR HANDHELD SCANNER FALLING OVER?

Try our unique, swivel base, telescopic scanner antenna. CAT-WHISKER lets you lay your handheld scanner on its back and still keep the antenna vertical!

- Swivels to ANY angle, adjusts to any length.
- Fits ANY scanner with a BNC antenna connector.

CAT-WHISKER #1 (5 to 23 inches)...**$19.95**
CAT-WHISKER #2 (6 to 36 inches)...**$24.95**

HOKA CODE-3 USA Version

"The Standard Against Which All Future Decoders Will Be Compared"

Many radio amateurs and SWLs are puzzled! Just what are all those strange signals you can hear but not identify on the Short Wave Bands? A few of them such as CW, RTTY, Packet and Amtor you'll know - but what about the many other signals?

There are some well known CW/RTTY Decoders but then there is CODE-3. It's up to you to make the choice, but it will be easy once you see CODE-3. CODE-3 has an exclusive auto-classification module that tells YOU what you're listening to AND automatically sets you up to start decoding. No other decoder can do this on ALL the modes listed below - and most more expensive decoders have no means of identifying ANY received signals! Why spend more money for other decoders with FEWER features? CODE-3 works on any IBM-compatible computer with MS-DOS with at least 640kb of RAM, and a CGA monitor. CODE-3 includes software, a complete audio to digital FSK converter with built-in 115V ac power supply, and a RS-232 cable, ready to use.

Simulated Speed Measurement Module

CODE-3 is the most sophisticated decoder available for ANY amount of money.

26 Modes included in PROFESSIONAL package include:

- Morse ★
- RTTY/Baudot/Murray ★
- Sitor CCIR 625/476-4 ARQ - Navtex ★
- AX25 Packet ★
- Facsimile all RPM (up to 16 gray shades at 1024 x 768 pixels ★
- Autospec - Mk's I and II
- DUP-ARQ Artrac
- Twinplex
- ASCII ★
- ARQ6-90/98
- SI-ARQ/ARQ-S
- SWED-ARQ-ARQ-SWE
- ARQ-E/ARQ1000 Duplex
- ARQ-N-ARQ1000 Duplex Variant
- ARQ-E3-CCIR519 Variant
- POL-ARQ 100 Baud Duplex ARQ
- TDM242/ARQ-M2/4-242
- TDM342/ARQ-M2/4
- FEC-A FEC100A/FEC101
- FEC-S • FEC1000 Simplex
- Sports info 300 baud ASCII
- Hellscreiber-Synch/Asynch ★
- Sitor • RAW (Normal Sitor but without Synch.
- ARQ6-70
- Baudot F788N
- Pactor ★
- WEFAX ★
- All modes in typical baud rates with possibility of changing to any desired value of speed and shift.
- User can save incoming data to disk in either ASCII or raw bit form.

EXTRA OPTIONS

	REG. PRICE
Piccolo	$85 00
Coquelet	$85 00
4 special ARQ & FEC systems: TORG-10/11, ROU-FEC/ RUM-FEC, HC-ARQ (ICRC) and HNG-FEC	$115.00
SYNOP decoder	$85 00

PROFESSIONAL CODE-3 DECODER
$595.00 + S & H
Includes: ALL Modes, Plus Oscilloscope★, ASCII Storage, Auto Classify★, and PACTOR★ Options
with ALL EXTRA OPTIONS $795.00 + S&H

CODE 3 - GOLD VHF/SW DECODER
$425.00 + S & H
includes POCSAG & ACARS Plus ★ Modes/Options
with ALL EXTRA MODES/OPTIONS $595.00 + S&H

ALSO AVAILABLE - HOKA CODE-30 DSP-based Professional Decoder - CALL FOR PRICE

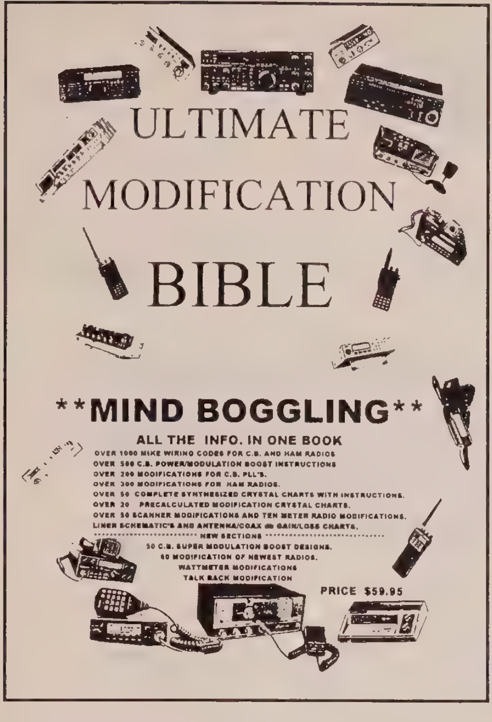
Now Available - Stridsberg Engineering Multicouplers - "Call for Quantity Pricing"
http://www.scancat.com/mlticplr.html

INTERNET WEB ADDRESS - http://www.scancat.com WEB E-MAIL - scancat@scancat.com
(S & H $10 US, $15 Foreign)

Order direct or contact your favorite dealer
FREE DEMOS ON THE WEB

COMPUTER AIDED TECHNOLOGIES P.O. Box 18285 Shreveport, LA 71138
Phone/Orders: (318) 687-4444 FAX: (318) 686-0449
Info/Tech Support: (318) 687-2555 (9 am - 1 pm Central M-F)

Toll-Free Orders
888-SCANCAT
888-722-6228



ULTIMATE
MODIFICATION
BIBLE

MIND BOGGLING

ALL THE INFO. IN ONE BOOK
OVER 1000 MIKE WIRING CODES FOR C.B. AND HAM RADIOS
OVER 500 C.B. POWER/MODULATION BOOST INSTRUCTIONS
OVER 200 MODIFICATIONS FOR C.B. PLL'S.
OVER 300 MODIFICATIONS FOR HAM RADIOS.
OVER 50 COMPLETE SYNTHESIZED CRYSTAL CHARTS WITH INSTRUCTIONS.
OVER 20 PRECALCULATED MODIFICATION CRYSTAL CHARTS.
OVER 50 SCANNER MODIFICATIONS AND TEN METER RADIO MODIFICATIONS.
LINER SCHEMATIC'S AND ANTENNA/COAX GAIN/LOSS CHARTS.
NEW SECTIONS
50 C.B. SUPER MODULATION BOOST DESIGNS.
60 MODIFICATION OF NEWEST RADIOS.
WATTMETER MODIFICATIONS
TALK BACK MODIFICATION
PRICE $59.95

The Mind Boggling Ultimate Modification Guide (9th Edition) *covers all kinds of mods for 1,100 scanners, ham radios, and CBs.*

Boggling Ultimate Modification Guide (9th Edition).

Within its covers, you'll find more than 1,100 mods for scanners, 10 meter and other ham radios, and CB radios. There are CB power and modulation boosting instructions, and PLL mods, as well as how-to-do slider and "talk-back" mods. The latest models are covered along with other models of recent manufacture. Many of the mods in this book haven't appeared anywhere else. Also, more than 1,000 mic wiring codes used for CB and ham radios are provided. There are charts showing synthesized crystals (with instructions), precalculated mods, crystal charts, gain charts for antennas and coaxial cable, and also linear schematics. Plenty of other schematics and wiring diagrams are included, and the book has that terrific macho no-nonsense look and approach of *underground* guides not intended for general public distribution. We liked it a lot.

A limited number of copies of the *Mind Boggling Ultimate Modification Guide (9th Edition)* have been obtained. These are $29.95 (this is less than half the price shown on the book itself), plus $5 s/h ($7 to Canada). New York State residents please add $2.88 tax. VISA/Mastercard/Discover are welcomed. Order it from CRB Research Books, Inc., P.O. Box 56, Commack, NY 11725. Phone orders are taken at 516-543-9169 or E-mail to <sales@crbbooks.com> or visit their fully secure Website at <http://www.crbbooks.com>.

CIRCLE 101 ON READER SERVICE CARD

New Cobra CB Extension Speakers

Cobra Electronics Corporation announces three new CB extension speakers, the CS-100, CS-300, and CS-500, all featuring 10 watts of audio power, four-inch drivers, and a full range voice coil that delivers improved audio clarity.

Cobra featured their first line of extension speakers at the recent Consumer Electronics Show in Las Vegas. According to John Pohl, Vice President of Marketing at Cobra, the speakers ". . . incorporate all the performance benefits demanded by professional drivers and add a dynamic, high-style design."

Each Cobra CB extension speaker features a large, three-dimensional rendering of the Cobra snake logo on the round front grille covers. The new line of speakers also incorporates the latest technolo-

(Continued on page 75)

DEDICATED TO THE SCANNING AND SHORTWAVE ENTHUSIAST. WE'RE MORE THAN JUST SOFTWARE!

SCANCAT GOLD for Windows "SE"
Since 1989, The Recognized Leader in Computer Control

NOW SUPPORTS
• FULL TRUNKING UNIDEN BC-895
• ICOM IC-PCR1000
• OPTOELECTRONICS OPTOCOM
• TEN-TEC RX-320

Once you use SCANCAT with YOUR radio, you'll NEVER use your radio again WITHOUT SCANCAT!

SCANCAT supports almost ALL computer controlled radios by: AOR, DRAKE, KENWOOD, ICOM, YAESU and JRC (NRD) Plus PRO-2005/6/35/42 (with OS456/535), Lowe HF-150, and Watkins-Johnson .

SCANCAT GOLD FOR WINDOWS "SE" (Surveillance-Enhanced)
FEATURES

Now Supports AOR AR-8200B

- Selective Sound Recording using PC-compatible sound card. "Point & Shoot" playback by individual hits.
- Demographic search for frequency co-ordination and 2-way Usage Analysis.
- Detailed logging to ASCII type files with DATE, TIME, Sig Str, Air Time.
- Exclusive "MACRO" control by frequency of Dwell, Hang, Resume. Sig. Treshhold and even 6 separate programmable, audible alarms.
- Command line options for TIMED ON/OFF (Unattended) logging/searches.
- Run as many as 6 different CI-V addressable radios as "Master/Slave.

SEVERAL GRAPHICAL ANALYSIS MODES AVAILABLE

With Scancat Gold for Windows "SE," your spectrum never looked so good! Load virtually "any" database and Scancat "SE" will examine your database, plot each and every frequency, no matter what the range...and "paint" the entire analysis on your screen.

- By Signal Strength per frequency in a "histograph".
- By Signal Strength plotted in individual dots.
- By Number of hits per frequency in a "histograph".

• IF THAT ISN'T ENOUGH, try this...Multicolored, 3-D "Spatial/Landscape" (Depicted at left).

SCANCAT GOLD "SE"......$159.95 + S & H* UPGRADE SCANCAT GOLD FOR WINDOWS "SE".......$59.95 + S & H* *$5 U.S. $7.50 FOREIGN

SCANCAT'S WINDOWS FEATURES

- Unattended Logging of frequencies
- Scan Create Disk Files.
- Spectrum Analysis to Screen OR Printer.
- LINK up to 100 Disk files or ranges.
- Supports PerCon, Mr. Scanner, and Betty Bearcat CD Roms.
- Scan VHF & HF Icom's Simultaneously.
- MULTIPLE search filters for Diskfile Scanning.
- UNLIMITED file sizes with our exclusive SCANCAT filing method.
- Search by CTCSS & DCS tones with OS456/535 or DC440 (ICOM only).
- INCLUDES several large shortwave and VHF/UHF databases

All the features you EXPECT from a true Windows application such as:

- UNIQUE database management system with moveable columns. Even SPLIT columns into doubles or triples for easy viewing of ALL important data on one screen.
- Exclusive 'SLIDE RULE' tuner. Click or 'skate' your mouse over our Slide-Tuner to change frequencies effortlessly! OR use our graphical tuning knob.
- VERSATILE "Functional" spectrum analysis. NOT just a "pretty face". Spectrum is held in memory for long term accumulation. Simply "mouse over" to read frequency of spectrum location. "CLICK" to immediately tune your receiver. You can even accumulate a spectrum from scanning DISKFILES of random frequencies!• DIRECT scanning of most DBASE, FOXPRO, ACCESS, BTRIEVE files WITHOUT "importing".

SCANCAT GOLD FOR WINDOWS (NON-"SE".)......$99.95 + S & H* UPGRADE.......$29.95 + S & H* *$5 U.S. $7.50 FOREIGN

MAGIC for Windows

PUT SOME ORDER IN YOUR LIFE!

If You're Not Using MAGIC, You're Only Enjoying Half The Hobby.

Magic is a super conversion utility that will read and write to over 10 database formats

- Creates databases from plain ASCII text.
- Finds single or multiple frequencies located anywhere in source files and creates perfectly aligned database files.
- Converts: SCANCAT, ASCII text, comma delimited, HTML, DBase, ScanStar, RadioManager and ScannerWear.
- NEW WiNRADIO. "WRM" files and PCR1000 ".MCH" files.

MAGIC for Windows $34.95 (plus $5.00 S & H)

LIMITED TIME OFFER!
Limited Time Thru 5/1/99
SCANCAT GOLD "SE"/CAT-232C
Buy Scancat Gold for Windows "SE" and our CAT-232C "Uni-Versatile Interface," and receive a FREE "Disk Full of Frequencies." A $274.95 value (if purchased separately) for only $249.95
No Minimum Purchase Required
Please Ask For Special "SCG-UNI"

"UNI-VERSATILE" INTERFACE

- Supports ICOM/IC-R10, AR8000, YAESU and SCOUT.
- Comes with 6 FOOT cable, and adapters to fit all units within a single package (Must Specify Yaesu)
- Unlike "single radio" adapters, can be used with ANY radio supported, simply change the adapter, then "Plug and Play."
- Expandable in future with a simple add on adapter.
- No external power required. Draws power from computer.
- "Reaction Tune" scout with NO modifications to radio.

CAT-232C "UNIVERSATILE INTERFACE" $99.95 + s & h

AR-8200B Cables/Interfaces —CALL!
BC-895 Cables $29.95

INTERNET WEB ADDRESS - http://www.scancat.com WEB E-MAIL - scancat@scancat.com

Order direct or contact your favorite dealer
FREE DEMOS ON THE WEB

COMPUTER AIDED TECHNOLOGIES P.O. Box 18285 Shreveport, LA 71138
Phone/Orders: (318) 687-4444 FAX: (318) 686-0449
Info/Tech Support: (318) 687-2555 (9 am - 1 pm Central M-F)

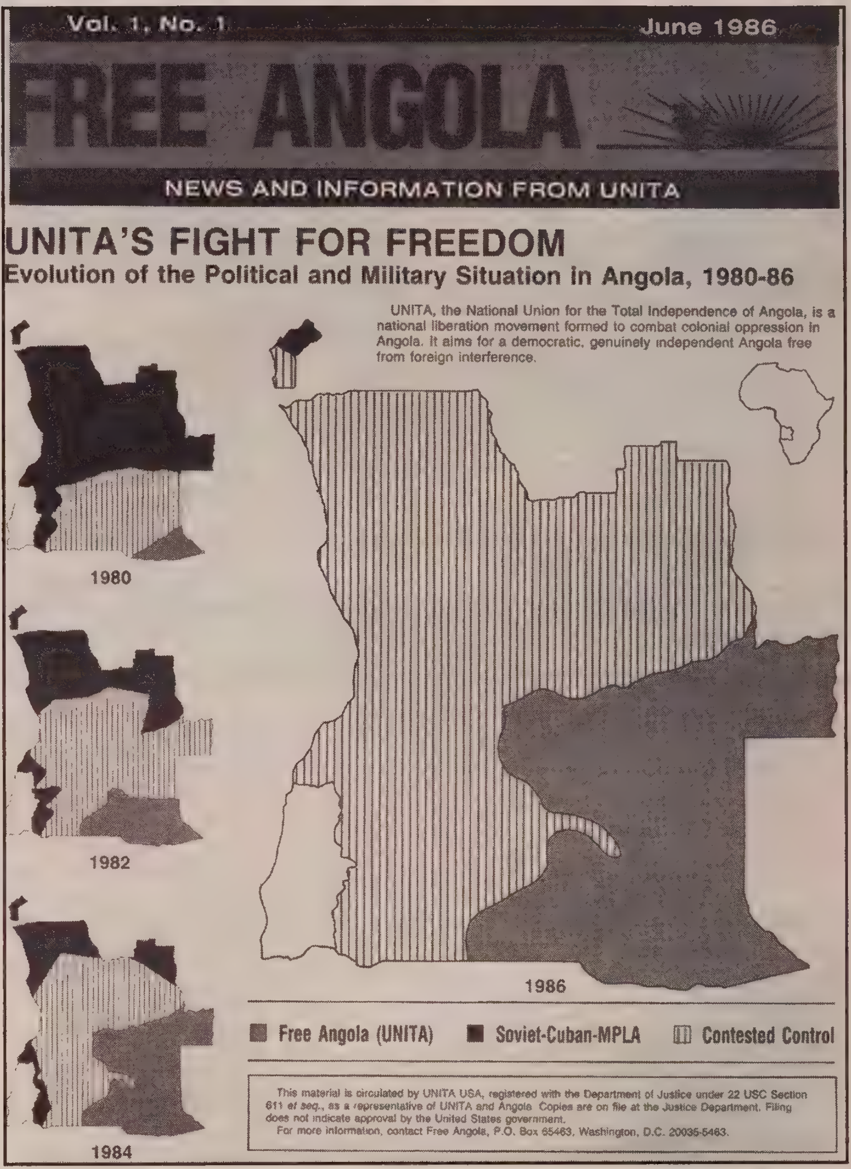
Toll-Free Orders
888-SCANCAT
888-722-6228

BY GERRY L. DEXTER

Clandestine Communiqué

TUNING IN TO ANTI-GOVERNMENT RADIO

Angola's VORGAN Back On The Air — On Three Frequencies!


Vol. 1, No. 1 June 1986

FREE ANGOLA

NEWS AND INFORMATION FROM UNITA

UNITA'S FIGHT FOR FREEDOM

Evolution of the Political and Military Situation in Angola, 1980-86

UNITA, the National Union for the Total Independence of Angola, is a national liberation movement formed to combat colonial oppression in Angola. It aims for a democratic, genuinely independent Angola free from foreign interference.

▨ Free Angola (UNITA) ■ Soviet-Cuban-MPLA ▥ Contested Control

This material is circulated by UNITA USA, registered with the Department of Justice under 22 USC Section 611 *et seq.*, as a representative of UNITA and Angola. Copies are on file at the Justice Department. Filing does not indicate approval by the United States government.
For more information, contact Free Angola, P.O. Box 65463, Washington, D.C. 20035-5463.

The Angolan resistance group UNITA is back on shortwave. This UNITA newsletter from the mid '80s showed who controlled what at that time.

While writing last month's column, we almost included a paragraph on the Angolan situation — the worsening relationship between the government and the UNITA group. Sometime ago, the two had reached a U.N.-mandated agreement which halted the civil war and gave UNITA some say in the government. As part of the agreement, UNITA's clandestine station discontinued its broadcasts on shortwave, and their station was to become a "more or less" non-political local FM broadcaster called **Radio Despertar** ("Awakening"). Last month's column almost contained a prediction that the UNITA station might well return to shortwave. And shortly after the column was put to bed, that's exactly what happened!

VORGAN — Voz Resistencia do Galo Negro (Voice of the Resistance of the Black Cockerel) is now back on the air. It is scheduled from 0700 to 0900 on **5950**, 1200 to 1430 on **11830,** and 1900 to 2100 on **7100**. This schedule is considerably different from the one used before they ended shortwave in the spring of last year, and it doesn't appear to be as conducive to reception in North America. But don't let that stop you from making a determined effort to hear this one.

The Voice of the (Tamil) Tigers is now on the air from about 0100 on **7460**, but this may not be on an everyday basis. This station supports the Liberation Tigers of the Tamil Eelam group which is fighting the government of Sri Lanka. This station is apparently actually based within rebel territory in Sri Lanka. The power isn't much, so we're likely to have a tough time with it in North America.

The Voice of Oromo Liberation currently operates on Thursdays, Fridays, and Sundays from 1700 to 1800 on **11725** over Deutsche Telekom transmitters at Juelich, Germany. Broadcasts are in the Amharic and Oromo languages and support independence for Ethiopia's Oromo province. The station is operated by the Oromo Liberation Front, among others. Addresses include SBO, Box 510610, 13366 Berlin, Germany and SBO, P.O. Box 73247, Washington, DC 20056.

Another Ethiopian clandestine is **Radio Rainbow — the Voice of Peace and Brotherhood,** operated by a group calling itself the Research and Action Group for Peace in Ethiopia and the Horn of Africa. This one also broadcasts via Germany and is currently scheduled Saturdays from 0100 to 0200 on **6155** (to North America); Sundays from 1000 to 1100 to Europe on **5910,** and Thursdays from 1600 to 1700 to Africa on **11840**. The address is RAGPHEA, P.O. Box 140104, 53056, Bonn, Germany.

A new anti-Iranian station is **Radio Tomorrow's Iran**, which claims to speak on behalf of the entire Iranian opposition. This clandestine operates on **5830** between 1800 and 1830, with broadcasts in Farsi, probably transmitted via Dushambe in Tadzhikistan.

Meantime, the **Democratic Voice of Iran** (which also broadcast via Dushambe) has discontinued its HF broadcasts, though the powers that be say they'd like to continue their efforts with Real Audio transmissions via the Internet.

The Democratic Voice of Burma is currently on the air from 1245 to 1345, using **5945, 7490, and 15330**. This one is pretty reliable in the QSL department. Reports go to P.O. Box 6720, Skt. Olavs Plass, N-0130 Oslo, Norway. The broadcasts are carried over facilities of Radio Norway. If you don't hear the station on the above frequencies, try **11580 and 15635**. Failing that, check other Radio Norway frequencies.

It seems that with the much improved situation in Nigeria, all of the Nigerian clandestines (and there were quite a few of them at one point) have discontinued their broadcasts. The last to leave was Radio Kuridat.

A new anti-Sudan broadcaster is the **Voice of Freedom and Renewal — Voice of the Sudan Alliance Forces — Voice of the Popular Armed Uprising** (is that one station or three?) operating from 0400 to 0500 and 1600 to 1700 on somewhat **variable 7000**. The address for this one is reported to be 37 Cassidy St. #228, Kingston, Ontario, K7K 7B3, Canada.

The Voice of Tibet is now scheduled from 1220 to 1255 on **7470 (or 7465, or 7455!)** and **11520**. This one is also transmitted via Radio Norway. Reports for this go to Wellhavensgat 1,0166 Oslo, Norway.

By the time you read this, **Radio Free Kosovo** may be on shortwave. Operated by the Kosovo Liberation Army, a local FM version went on the air early this year. There are some indications that a shortwave broadcast may be set up, aired via Deutsche Telekom, Germany.

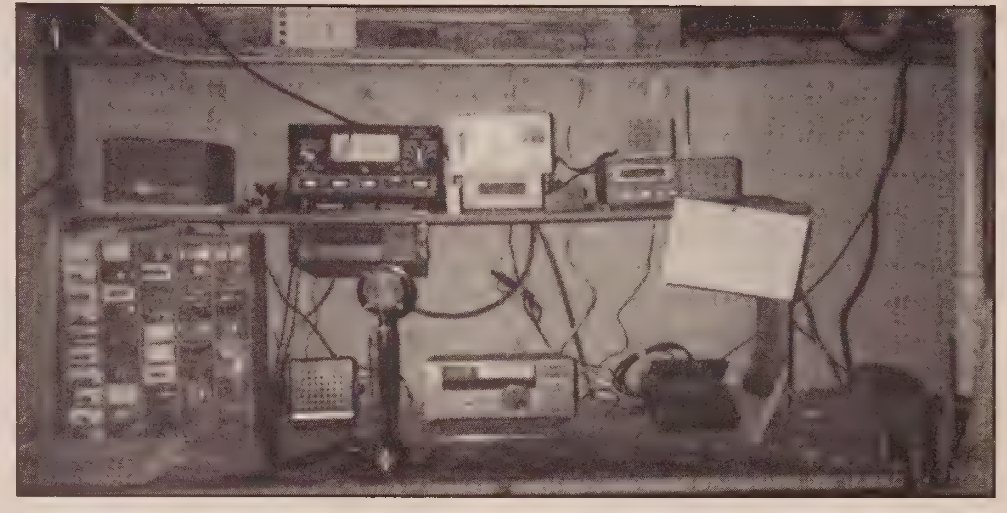
Keep an ear out, too, for the launch of **Radio Democracy for Africa**, the latest in the U.S. government's growing list of "free" broadcast services aimed at particular places on the globe — another cousin of Radio Free Europe/Radio Liberty. Radio Democracy for Africa will aim its broadcasts at the 20 or so African countries which do not have "democratic" governments.

That covers things for this time. Remember, your comments and informational input are always welcome — including clandestine station loggings, address and QSL info, as well as background information on clandestine stations, locations, and the groups which operate them. Thanks for your continued interest. Send your letters to *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801.

Until next time, good hunting! ■

How I Got Started

Congratulations To John McGrath Of Reno, Nevada!



John's shack in Reno, Nevada.

Popular Communications invites you to submit in about 150 words how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo (no Polaroids, please) should be included.

Each month we'll select one entry and publish it here. Submit your entry only once; we'll keep it on file. All submissions become the property of *Popular Communications,* and none will be acknowledged or returned. Entries will be selected taking into consideration the story they relate, and if it is especially interesting, unusual, or even humorous. We reserve the right to edit all submitted material for length and grammar, and to improve style.

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications.* Address all entries to: "How I Got Started," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail your entry to <popularcom@aol.com>, letting us know if you're sending photos.

Our May Winner

Pop'Comm reader, John McGrath says, "I got my first taste of radio in 1974. My Uncle Dan was a novice ham with all kinds of equipment that just dazzled my eyes. Actually, I think he had the complete Yaesu FT101 setup. I would sleep overnight, listening to the dits and dahs and read what he was he copying down on his notepad. One night, there was Japan!

I would help him with his dipole antennas, climbing up in trees in his backyard. Then, my Dad got into the CB craze. In 1976, he had his SSB Colt 480 and Starduster antenna on the roof. He would talk to everyone. I'd go to meetings with him in the Chicago area (Little Rascals and the W-group). It was fun even if I was a kid.

As time went by, his equipment went on the shelf and we moved out of the city into the suburbs of Chicago. He gave me all his equipment, set me up with a Big Stick antenna, and that old Colt. It worked great.

Of course, I also got a scanner. I was down in that basement every minute I could spare. That was about 1982. Now, 17 years later, a lot of time has passed and the old breaker, breaker isn't the same. I'm still on the radio — always will be. I now live in Nevada and talk to my Dad on SSB when the skip is rolling. I have a ICOM PCR1000 wideband receiver.

I am a cellular tech for a large phone company and have started selling CB equipment on the Web because I love the hobby so much. Now I am going to take the plunge and take my No-code test for my ham ticket. I love my radio hobby and will never give it up, thanks to my best friend, my Dad." ■

BY DON PATRICK

The Old CB Shack

GIVING LIFE TO YESTERDAY'S RELICS

What's The Value Of That Old Rig?

Spring has about sprung upon us and that means people are going to be cleaning out the garage and attic. It's also time for yard sales and flea markets, which are still a rich source of old CB radios — many are found in pretty good condition. I have bought some for $3, and others for $25.

Before we proceed, let me point out that in the March issue concerning the tuning of the Poly 23, the gremlins struck. The figure number and caption for Figure #1 and #2 were reversed. I'm sure you all caught it, since it was pretty obvious that the whole unit was not a test plug. Make the correction by swapping the number.

Now back to yard sales. Almost any tube unit will be worth some bucks some day. Other than a select few, don't mess with the transistorized mobile units. A few that come to mind are the Cadre, Polly Pup, Webster, and Raytheon units, and the early Pace models. If you find one that you are unsure of and don't recognize its name or model number, check with me and see what information I can provide you.

If it is a "buy now or never" situation, like a yard sale, here is a trick that might help. It's not an iron clad, sure-fire way to tell, but if you're looking at a $5 item, you won't get burned too badly. Open the unit up and look inside to see if there are any integrated circuits. The early units used only transistors since the IC had not yet been invented. A transistor is a single device, one stage of amplification. An IC has *many* transistors inside it, plus some other electronic components. It may perform more than one function. A transistor will generally be round in shape and most of the time will have only three wires coming out — like a three-legged milking stool. The IC generally is square or rectangular, and flat in shape with four or more wires or leads coming out. Most of the early ones had five to eight leads. If the radio has *any* IC in it, it is not an early model. The first IC developed (that I know about) was an audio output IC, used in a CB radio. Prior to that, early transistorized CB radios used a rather large transistor as the audio output. It mounted to the heavy metal back or the side rail of the unit to give it plenty of heat sink.

> ***". . . the E.F. Johnson Company made thousands of these units called the 'white face.'"***

Collector's Items

Some tube-unit base stations, like the Browning series, the Tram, Courier, and others, were made for a number of years after the transistor and IC had taken over in the CB market. Even these will someday be collector's items and worth a few bucks, but the valuable ones will be those units made from 1959 through about 1965. I know of some people that hit the shows, flea markets, and yard sales buying all the old units they can find. Many are not doing anything to restore or fix them if they don't work. They just plan on holding them for years until the value goes way up, and then selling at a tidy profit. They are just in it for the bucks, and that's fine. It preserves the old units, keeping them out of the local landfill. But I disagree with not restoring them to working order. First, if they work, they will bring a better price down the road. Second, it will be far more difficult and expensive to find parts to fix them later, and more difficult to find someone that can and will work on them. I think they should be put in reasonable working condition, then stored, and offered for sale years down the road.

An issue or two ago, I requested that you send in the name of any individuals or shops that you had done business with and received good, fair service. I didn't receive the name of even one such person or shop! I receive requests daily by E-mail and snail mail from readers wanting me to work on one of their units. Right now, I have all I can say grace over and am not taking any more radios in for service. What will it be like in the future? If my health stays good, and I get caught up, then I might accept additional units. My many years of working on them and the fact that I still have some original Johnson, Polycom, Pace, and other spare parts in the parts room helps me tremendously! And I have the most extensive collection of CB schematics that exists. Even in the old days of the wet process, multi-step copy machines, I would make a copy and file away at least part of a manual that a customer brought in with his radio.

In the next few months, I am going to sell all of my CB parts, radios, schematics, and my collection of CB radios for reasons of health. Watch this column for information on how, when, and where, if you are interested.

I realize that I haven't allowed much time for you to send in your questions about an old CB that you are thinking about buying. If you remember, in the March issue, we invited your letters. If your question doesn't get here in time for this May column, I'll give you an answer in the July issue. The only letters I have gotten so far have come via E-mail.

Answering Your Letters

Hal B. in Chicago asks about a "Polycom Pro." Hal, grab that set if it is complete except for tubes. While I don't know exactly how many Poly made, it was only a few. It was a flop on the market — it was too expensive, too complex to operate, and had too many problems. While the "Pro" had a good transmitter and modulator, so did many others.The receiver had about every performance enhancing feature known. That was part of its problem. Many of the circuits and features were a complete mystery to the user, and the operator usually wondered "what is it supposed to do and how do I adjust it?" On top of all of that, it had a number of small problems. I submitted a list of improvements to Poly that they incorporated into the rigs. They also put these improvements out as a service bulletin. Changes, such as shielding wire, moving parts further away from others, or adding a small capacitor from a specific pin to ground, were included. Hal, let me know if you end up with the unit and I'll send you this list of changes. It has many of Polycom's recommended changes. Using the list, you can check and see if they have all been done. Anyway, this CB will command a high price someday because it is so rare.

Susan K. in Miami, Florida, asks about a Pace CB-76. She says that her uncle was a trucker and used this radio. Susan says her aunt wants her to have the CB-76.

Susan, unless it has sentimental value to you, don't keep or use this CB thinking that it will someday be valuable. It's a boxy base-only unit that wasn't very reliable.

John P. in Columbia, South Carolina, asks about a U.S.L. TR-800. If this unit is complete and you can obtain it for $25 or less, do so. It was a simple unit and if any repairs are needed, they should be cheap. It could be operated on 6, 12, or 117 volts. The unit didn't use a microphone with push to talk. It had a lever-type switch on the front panel that you pushed down to talk, and let up to receive. This was not uncommon on early models of CBs and it's a sure sign that it will increase in value. Many such units were converted by having a relay added to give them PTT operation. If yours (or any with this circuit) has not been modified, don't convert them. In the original condition, someday they will be worth more. If anyone has a unit that was converted, but has the old switch left in place, change it back. I converted many of the units (various brands and models) and usually removed the switch. This gave me a hole in the front panel to run the new microphone cord through. Why did folks convert these units? Count with me: one hand to hold the microphone up to your mouth, one hand to operate the transmit/receive switch, and one hand on the steering wheel!

> ***"It had a lever-type switch on the front panel that you pushed down to talk, and let up to receive."***

Joe M. in Los Angeles, California, asks about the Johnson Messenger I. Joe, the E.F. Johnson Company made thousands of these units called the "white face." They will be a popular collector's item because so many were made and virtually everyone used to have one. But because so many were made, they will never reach a high price. If it is in good shape and working, figure $50–60. If it is clean, but not working, $15–25.

That's all the requests that I have received to date. I am writing this column in early February. If you have a request, but it was received too late to make this issue, it will be in the next issue.

As you go to garage sales or flea markets, keep a lookout for old CBs that will work on 6 volts DC. In the past two years, I have rebuilt a few of these to be put into an antique car since many of these old vehicles use 6 volts. Therefore, these will increase in value quicker than most units.

In the next issue, I am going to try to cover the General CB units. First, I have to check that the unit we have is in good enough shape to rebuild. (I purchase almost any old tube-unit that I find — if it's cheap enough). Some are incomplete, missing parts and such, but it gives me a source of parts when I find one that is worth rebuilding.

Send me your questions on old CB units and antennas. Your photos are always welcome. Write (and enclose an SASE) the Oldestimer at 3701 Old Jenny Lind, Fort Smith, AR 72901. You can also E-mail me at <oldestimer@ aol.com>.

Until next time — keep looking for those old units. And have a great spring!

We don't make SCANNERS or the ICOM IC-R8500 RECEIVER
- We make them better -

DELTACOMM I-8500 Communication Manager for the ICOM IC-R8500 communication receiver. With speed as a design goal DELTACOMM's QUICK LOG function will log signal level, frequency, mode, date, time and optional Global Positioning System (GPS) coordinates at speeds in excess of 2400 channels per minute. Here are a few examples of the many advanced features DELTACOMM I-8500 has to offer.

- Load 40 channels of information including ALPHA NUMERICS into one of the R8500's memory banks in 3 seconds.
- Separate volume level, resume scan delay and maximum monitor delay plus 40 character information field for each scan channel.
- Priority channel operation samples at 2.5 second intervals.
- Multi-receiver control will hand off active frequency to next receiver on line. Able to control up to 125 ICOM receivers (optional).
- Traditional scanning is a thing of the past with our CYBERSCAN feature, used to track systems employing frequency hopping.
- Activity log function automatically records and calculates total spectrum usage time.
- Unique search operation stores all frequencies found active and then automatically skips those frequencies during the remaining search cycles. This feature eliminates redundant logging.

Visit our Internet Web Page or Phone/FAX us for program features, new product releases and pricing schedule. DELTACOMM is available for ICOM R9000, R7100, R7000, R71, R72, IC-735 (features vary with type of radio). Also check out our DELTATONE 2.0 repeater programmer.

http://www.execpc.com/~deltacom

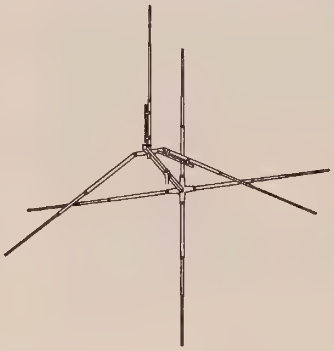
MasterCard **Delta Research** VISA

Box 13677 - Wauwatosa, WI 53213 - FAX/Phone (414) 353-4567

CIRCLE 67 ON READER SERVICE CARD

"Small in Size, Large in Performance"

The "Smokin' Gunn II" two element directional beam.



For information and pricing, contact any of the following Dealers:

Barker Electronics
Lawrenceville, IL
618-943-4236

TC Radio
Watha, NC
910-285-5841

Walt's CB & Scanner
Asheville, NC
704-254-3048

J.C.R.E.
Woodland Park, CO
800-568-7752

Big Buffalo's Hide
Norwich, CT
800-455-1557

C & S Radio
Owings, MD
410-257-9481

Hi Tech Repair
Montgomery, NY
914-457-3317

Boots Communications
Paint Rock, TX
915-732-4768

Fry Enterprises
Nashville, TN
615-262-1862

R & R Communications
Wilmington, DE
302-475-1351

JO GUNN Antennas

Route 1 - Box 32C • Old Hwy 82
Ethelsville, AL 35461
(205) 658-2229 • Fax (205) 658-2259
Hours: 9 a.m - 5 p.m. (CST) Tues - Friday
Answering System After Hours
Visit us at our web site at www.jogunn.com
Dealer inquires, please call.

BY GERRY L. DEXTER

The Listening Post

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

Argentine Antarctic Station Back On The Air — With 10,000 Watts!

By now, LRA36 — **Radio Nacional Archangel San Gabriel** — the Argentine Antarctic shortwave station, which has been off the air for a number of months, should have resumed broadcasting with a tenfold increase in power over the one-kilowatt the station has always used for its broadcasts from Argentina's Base Esperanza. In addition to the old 15475 frequency (which was actually **15476**), the station will also broadcast on **6030 and 11955**, depending on the dictates of time of day and propagation. There's a chance the station may operate 24-hours-a-day, at least on certain occasions. The specific schedule isn't known at this writing.

Colombian shortwaver **La Voz de la Selva** has been reactivated and is operating on **6168**, a bit below its former spot on 6170. Check for this station early in the mornings or in the evening. The station broadcasts from Florencia and in its last appearance was listed simply as Caracol Florencia.

It would seem that we North Americans don't count for much in Paris, if we ever did. Radio France International has discontinued its English broadcasts to this continent (aired at 1200). There is still English on RFI at that time, but reception is likely to be much less clear. Try one of these frequencies beamed to other parts of the world: **9805, 11600, 15155, 15195, 15540, or 17575.** If we recall correctly, RFI still has plans to add one or two more 500 kW transmitters.

And the BBC is making cuts, too, though, as far as we know, not in its English service. The premier world broadcaster has to slash about $35 million from its budget and among the steps it's taking to reach that mark will K.O. broadcasts in German and Czech. They will also reduce broadcasts in Hungarian, Arabic, and Hungarian.

Those broadcasts to Africa from **RTBF in Belgium** should be underway now, transmitted via Deutsche Telekom facilities in Germany. The test schedule was on the air from 0600 to 0700 on **15715**; 1100–1200 on **21540,** and 1700–1800 back on **15715**. It's uncertain at this writing whether those times and frequencies will hold for their regular service.

RADIO SOFIA
BULGARIA
The Sofia University

This QSL is well past voting age. It's from 1969, when Radio Bulgaria was still Radio Sofia.

Radio Vilnius, Lithuania, is putting a new 100 kW transmitter into operation, and once that happens, they will discontinue transmissions via Deutsche Telekom. At some point down the road, a new antenna system aimed at North America and Europe will be used.

Deutsche Welle has renewed its agreement with the Portuguese government on the Sines relay station, which will now run until the year 2015. The present 250 kW transmitters at Sines will be replaced by modern units, new antennas will be erected, and digital broadcasting is planned for 2001.

Listening Post reporter **Jack Linonis** would like to hear from readers using the "Sloper" brand SWL antenna. You can write to Jack at 1890 S. Hermitage Road, West Middlesex, PA 16159-6551.

This month's SWL book winner is long-time and very regular **reporter Dave Jeffery of Niagara Falls, NY.** Dave will be sent a copy of *The Shortwave Listening Guidebook* by well-

A striking shot of the shortwave towers at Radio Vatican's Santa Maria do Galeria transmitting site.

Abbreviations Used in Listening Post

AA	Arabic
BC	Broadcasting
CC	Chinese
EE	English
FF	French
GG	German
ID	Identification
IS	Interval Signal
JJ	Japanese
mx	Music
NA	North America
nx	News
OM	Male
pgm	Program
PP	Portuguese
RR	Russian
rx	Religion/ious
SA	South America/n
SS	Spanish
UTC	Coordinated Universal Time (ex-GMT)
v	Frequency varies
w/	With
WX	Weather
YL	Female
//	Parallel Frequencies

known shortwave expert Harry Helms, courtesy of Universal Radio. Congrats, David. Keep 'em coming! Universal's huge catalog runs to over 100 pages and contains every kind of shortwave radio, antenna, accessory, and book imaginable. You can get a copy by writing Universal at 6830 Americana Parkway, Reynoldsburg, OH 43068. Or call them at 614-866-4267. Their Website is at <http://www.universal-radio.com>.

Your reception logs are always welcome. Just be sure to list items by country, do a minimum double-space between each (so we can navigate scissors easily), and add your last name and state abbreviation after each item. Other things we can put to good use here are spare QSL cards you don't need returned, station photos, and other materials, including schedules. And how about a photograph of you at your listening post? As always, thanks so much for your continued interest and cooperation!

Here are this month's logs. All times are in UTC, which is five hours ahead of EST, i.e.0000 UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST and 4 p.m. PST. Double capital letters are language abbreviations (FF = French, AA = Arabic, SS = Spanish, etc.). If no language abbreviation is included, the broadcast is assumed to have been in English.

ALASKA — KNLS, **7365** heard at 1313 with a discussion on caving and cave trips, "Postcard from Alaska" feature, ID at 1320. (Zamora, TX)

ALGERIA — Radio Algiers Int'l, **15160** from 1600 with news, press review, full IDs, and many "RAI" IDs. **//11715.23** which was very weak. (Alexander, PA)

ANTIGUA — BBC World Service via Antigua, **5975** at 0030 with "Westway." (Jeffery, NY)

ARGENTINA — RAE at 0218 with SS vocals. (Miller, WA)

ASCENSION ISLAND — BBC World Service, **15400** at 1801 and **17830** at 2000. (Jeffery, NY)

AUSTRALIA — Radio Australia, **5995** via Brandon at 1146 with pops. **6020** via Shepparton with news at 1200. QRM from Radio Victoria, Peru. (Miller, WA) 6020 at 1318 and **17715** at 0217 with news. (Jeffery, NY) **9580** at 1130. (Linonis, PA) **21740** at 2200 with news. (Burgess, MA) 2220 with Australian jazz, ID 2230. (Zamora, TX)

AZERBAIJAN — Radio Dada Gorgud, (presumed) on **9165.04** from 1230 with local music, talk in unidentified language. Good but distorted audio. Unfamiliar IS at 1258, possible ID at 1300 with definite mention of Azerbaijan. (Alexander, PA)

BOTSWANA — Voice of America relay, **7415** at 0409 with news. (Jeffery, NY)

BRAZIL — Radio Nacional do Amazonia, **11780** in PP at 0214 with Brazilian pops. (Miller, WA)

BULGARIA — Radio Bulgaria, **7375** at 0320 with talk about Jewish people in Bulgaria. (Linonis, PA)

CANADA — BBC via Sackville, **9515** at 1524 and **17840** at 1701. (Jeffery, NY) Radio Canada Int'l, **6155** at 0230 with talk of Canadians serving with the UN in Kosovo. (Linonis, PA) **17715** at 1330 with news. (Northrup, MO)

CENTRAL AFRICAN REPUBLIC — Radio Minurca (presumed) **9900** fair to good at 2300 to past 0025. Back after several weeks, with continuous Euro-pops, U.S., African pops. No talk. Dead air between songs. Also lots of splatter from Switzerland's **9905** 0025 sign-on. (Alexander, PA) (*Was off the air for a time due to tech problems. Supposedly 24-hour operation. — Editor*)

CHILE — Voz Cristiana, **6070** at 0035 in SS with ID, Christian music. Weak under CFRB. Much better on **parallel 15375 and 21550.02**. Also at 0120 on **11744.57**, **//6075, 11690, 15375** (Alexander, PA) **11745** at 0245. (Miller, WA) 17680 at 1241 with Christian music in SS, ID at 1357 "Esta es Radio Voz Cristiana," and news in SS at 1400. (Zamora, TX)

COLOMBIA — Caracol, Bogota, **5075** at 0330 with solid ID, plenty of SS pops and news in SS. (Linonis, PA)

COSTA RICA — Faro del Caribe/TIFC, **5055** at 1137 in SS with Latin music. (Miller, WA)

CUBA — Radio Havana Cuba, **6000** monitored at 0411 with news and ID. **9820** at 0331 with news update, "Time Out," and DX program. (Jeffery, NY) **9820** at 0700. (Barton, AZ) New frequency **11705 USB** at 0100 to past 0335, ex-13605 which was still being announced. **Parallel 6000 and 9820**. ID, news, commentary, music. (Alexander, PA) 0200 but not //6000 on this occasion. Airing what sounded like a speech. Overmodulated. No sign of the usual QRM from VOA-Sri Lanka. (Silvi, OH)

Here's the HQ building of Swiss Radio International in Berne.

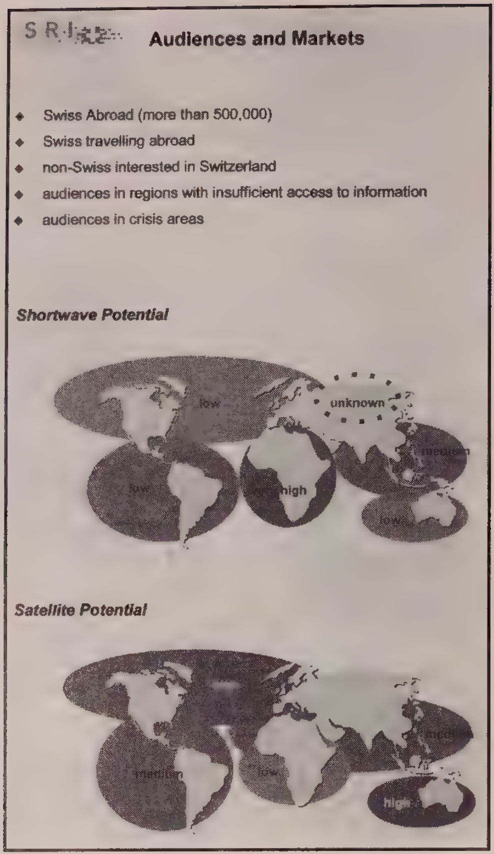
An English announcer at Swiss Radio gets ready to do her thing.

CZECH REPUBLIC — Radio Prague, **7345** monitored at 0315 with sports report. (Linonis, PA)

DENMARK — Radio Denmark via Norway, **11635** at 1937 and **11680** at 1629, both in DD. (Miller, WA)

DOMINICAN REPUBLIC — Radio Cristal Int'l, **5011.65**, 0615 to past 0705. Usually closes at 0100. All SS with SS pops, ballads, meringues. (Alexander, PA)

ECUADOR — HCJB, **6050** at 1217 with SS religious broadcast. (Miller, WA) **15115** at 1931 with ham radio program. (Jeffery, NY) Radio Bahai, **4950.11** in SS at 0923 with announcements, ID, Ecuadorian music, talk in Quechua. (Alexander, PA)



Audiences and Markets

- Swiss Abroad (more than 500,000)
- Swiss travelling abroad
- non-Swiss interested in Switzerland
- audiences in regions with insufficient access to information
- audiences in crisis areas

Shortwave Potential

Satellite Potential

Take a look at this info sheet from Swiss Radio. Note the low potential they see for a shortwave audience in the Western Hemisphere!

INTERNATIONAL SHORTWAVE STATION
KFBS-SAIPAN

View from the top (or pretty high up, anyway). The KFBS transmitter towers are barely noticeable just to the middle left-hand side.

YOU AIN'T HEARD NOTHIN'.. YET

CRB Research's CB Modification SECRETS
The Radio Hacker's Guide
Tune In On Telephone Calls !
3rd EDITION

Since 1967, CRB Research has been the world's leading publisher and supplier of unique hobby and professional books and information including:

- Scanner Frequency Guides
- Shortwave Frequency Guides
- Military/Federal Communications
- Undercover Communications
- Survival Communications
- & Other Related Topics!

New titles are constantly being added to our exciting catalog. If it's interesting and unusual, we've got it. You'll see.

Ask For Big Free Catalog

CRB RESEARCH
P.O. Box 56, Commack, NY 11725
Phone: (516) 543-9169
FAX (516) 543-7486
e-mail:sales@crbbooks.com
www.crbbooks.com

CIRCLE 11 ON READER SERVICE CARD

EGYPT — Radio Cairo, **9755** at 0412 with news in AA. (Miller, WA) **9992** in EE at 2200 with news and cultural features. (Ziegner, MA)

ENGLAND — BBC, **5965** via Sackville, at 1141. **6140** via Oman at 1516 in possible Tamil, beamed to Sri Lanka. (Miller, WA) **17705** at 1315 before Cuba signed on. (Northrup, MO) Merlin Network One, **9895** with rock program at 0334. Also **17630** at 1506 with rock. (Jeffery, NY) **17630** with rock at 1250. (Northrup, MO) 1515 with easy listening music. (Linonis, PA)

ETHIOPIA — Voice of the Tigray Revolution, **6315** at 0355 sign-on with stringed instrument IS, into programming at 0400 with talk in unidentified language. Weak under a RTTY station. Much better on **5500**. (Alexander, PA) (*Oops! This should have been in the clandestine column — Editor.*) Radio Ethiopia, **9704.2** at 0410 with distinctive local folk music, talk by woman in unidentified language. Good to strong. **//7110** good to strong and **5990** weak under two other stations. (Alexander, PA)

FINLAND — Radio Finland, **15400** at 1519 in Finnish with classical and folk music. (Jeffery, NY) **17660** at 1330 sign-on with ID, news, editorial comments from Finnish newspapers at 1354 and off at 1400. (Zamora, TX) 1330. News in EE. (Northrup, MO)

FRANCE — Radio France Int'l, **11615** at 1643 with "America News." (Miller, WA)

FRENCH GUIANA — Radio France Int'l relay, **17620** at 1310 and **17630** monitored at 1250, both in FF. (Northrup, MO) Radio Japan relay, **9660** at 0318 in JJ. (Jeffery, NY)

GABON — Africa Number One, **9580** at 0600 in FF with African news and pops. (Linonis, PA) **15475** at 1700 in FF with Calypso-like music. (Ziegner, MA)

GERMANY — Deutsche Welle, **9640** in GG with news. (Zamora, TX) **17730** (*via Antigua — Ed*) in GG at 1320. **17765** (also Antigua) at 1355 in GG. (Northrup, MO)

GREECE — Voice of Greece, **7450** in Greek at 0145. (Linonis, PA) **9375** at 0643 in AA, then into Greek. Also **15485** at 1952 with news in Greek. (Miller, WA)

GUATEMALA — Radio Tezulutlan, Coban, **4835** at 1132 in SS. (Miller, WA)

HAWAII — KWHR (presumed), **17510** at 0007 in what sounded like JJ. (Jeffery, NY)

HONDURAS — Radio Internacional, San Pedro Sula, **4930** monitored at 0221 in SS. (Miller, WA) (*This station has new owners and is now called Radio Costena, Ebenezer 12-20, La Voz de la Palabra." — Editor*)

HUNGARY — Radio Budapest, **6020** monitored at 0230 in presumed Hungarian. (Linonis, PA)

INDIA — All India Radio, **11585** via Bangalore at 1656 in unidentified language. **11620**, also Bangalore, at 0606 in EE and at 1820 in unidentified language. (Miller, WA)

INDONESIA — Voice of Indonesia, **15150** at 1830 in GG. Into FF at 1900. (Ziegner, MA)

IRAQ — Tentative Radio Iraq Int'l, **11785** at 1430 with Mideast music under a bubble jammer. (Alexander, PA)

ISRAEL — Kol Israel, **11606** in HH at 1659 with IS, news. (Miller, WA) **15640** at 1530 in Persian with news, music, talk. (Ziegner, MA)

ITALY — RAI, **11765** at 0210 with news in II. (Miller, WA) Italian Radio Relay Service, **3985** at 0635 to 0729 sign-off. Suppressed carrier USB. U.S. pops, ID, and address at 0700, into religious program. (Alexander, PA)

JAPAN — Radio Tampa, **3925** in JJ at 1122. (Miller, WA) Radio Japan/NHK World, **11705**, via Canada, at 0000 with talk. (Linonis, PA) **17695** (via England) at 1325 in JJ, and **17860** in JJ at 1330. (Northrup, MO)

Getting ready to air a tape on China Radio International in 1993. This was taken before they moved to their new facility. (Thanks to: R.C. Watts)

JORDAN — Radio Jordan, **11690** at 1654 with "On The Air If You Dare." Also **11935** at 1608. (Miller, WA)

KUWAIT — Radio Kuwait, **11775** at 0004 in AA with call to prayer. (Miller, WA) **11990** at 1830 with EE ID, news. (Jeffery, NY)

LIBYA — Radio Jamahiriya, **15435** with AA music at 1615, sports at 1628. (Barton, AZ)

MADAGASCAR — Radio Madagascar, **5009.64** at 0255 sign-on with IS, short national anthem at 0257, talk in language, local music. (Alexander, PA)

MEXICO — Radio Mexico Int'l, **9705** at 0016 with SS music. (Miller, WA) 1500 with EE news, commentary, ID, address. Into SS at 1523. (Alexander, PA) 1600 with "DXperience" with details on a QSL contest, how to listen to SWBC stations, tips, etc. (Zamora, TX) Radio Mil, **6010** at 0845 with SS pops, announcements, canned IDs. (Alexander, PA) Radio Educacion, **6195** at 0640 with big band jazz. (Barton, AZ)

MONGOLIA — Voice of Mongolia, **12085** in CC at 1200. Into EE at 1230. (Ziegner, MA)

MOROCCO — Radio TV Morocaine, **15345** in AA heard at 1800. EE to AA lessons. (Ziegner, MA)

NEW ZEALAND — Radio New Zealand Int'l, **11675** at 1652 "This is New Zealand Calling" followed by bird call, native chant, and news. (Miller, WA) **17675** at 0209 with local weather, sports program from Radio Four. (Jeffery, NY)

NETHERLANDS ANTILLES — Radio Netherlands Bonaire relay, **6165** at 0429 with news. (Jeffery, NY)

NICARAGUA — Radio Miskut, **5770** at 0200 with SS pops and talk, Echo ID. Suppressed carrier USB. (Alexander, PA)

NIGERIA — Voice of Nigeria, **15120** at 1900 with "Who Are the Nigerians?" (Linonis, PA)

NORTHERN MARIANAS — KFBS, Saipan, **9495** at 1537 in CC. (Barton, AZ)

NORWAY — Radio Norway Int'l, **18910** at 1735 with classical guitar. (Barton, AZ)

PAKISTAN — Radio Pakistan, **11570** at 1819 in unidentified language. Regional music. (Miller, WA)

PARAGUAY — Radio Nacional, **9735** in SS at 0155. (Miller, WA)

PERU — Radio Satellite, (tentative) **6726** at 0030 in SS. Poor. (Ziegner, MA) Radio Altura, **6479.1** at 0710 in SS with announcements, rustic Peruvian vocals, ID. Not the expected Radio Los Andes, heard here last November. (Alexander, PA)

PHILIPPINES — Voice of America relay, **9760** at 1638. (Barton, AZ) 1214 with "VOA News Now." **17820** at 0014 in EE. (Jeffery, NY 17820 at 0000 with special English. (Silvi, OH)

PORTUGAL — RDP International, **9715** in PP at 0347 with music, ID, comedy sketch. (Jeffery, NY)

RUSSIA — Voice of Russia, **11675** via Krasnodar, full data QSL received for $1 apologizing for the delay (five months total time) due to budgetary constraints. "At present we reply to listeners letters by E-mail only." (Silvi, OH)

SAUDI ARABIA — Broadcasting Service of the Kingdom of Saudi Arabia, **11910** in AA at 1639. (Barton, AZ) **15170** at 1545 to 1601 close. FF program. At 1600: "You are tuned to the English service of Radio Riyadh." Gave FM and MW frequencies and then abruptly off.

Choosing an antenna for your vehicle is easy. Knowing where to put it can be the challenge. That is why **FireStik**® makes more than 50 brackets and mounts to help you meet the challenge.

For a FREE copy of the 1999 Firestik Product Guide call, 602-273-7151 or write to: **Firestik Communications, 2614 East Adams Street, Phoenix, AZ 85034-1495.** You can also visit our web site at **http://www.firestik.com**

THE PROFESSIONALS CHOICE!

CIRCLE 3 ON READER SERVICE CARD

File Setup View Help
Mute
Radio Panel
Spectrum
Memories
Options
Exit
05.975000
Selectivity
Rx Mode
Step
Volume
AM/SW
LSB
USB
CW
Great Britain
Canada
Egypt
Germany
Ghana
Greece
Italy
Down Under
Add
Delete
Tune
Edit
Close
Log
Auto
Track Receiver
Solid
300 kHz
Sweep

LISTEN TO THE WORLD ON YOUR PC

Worldwide listening is only a mouse click away with ***PC RADIO.*** Catch world and local news from many viewpoints plus culture, politics, and music. Hear hams, military, commercial airlines, and CB. Tuning 100 kHz to 30 MHz, ***PC RADIO*** is a stand-alone, black box connecting to your serial port. Runs on Windows 3.1® or 95/98® and uses 1 MB of hard drive space.

Revolutionary "DSP" design provides features only dreamed of in previous receivers in this price class. Even the most experienced enthusiasts will marvel at the performance. **$295***

- No-Risk 30-day Money-Back Guarantee**
- VISA, Mastercard, and Discover

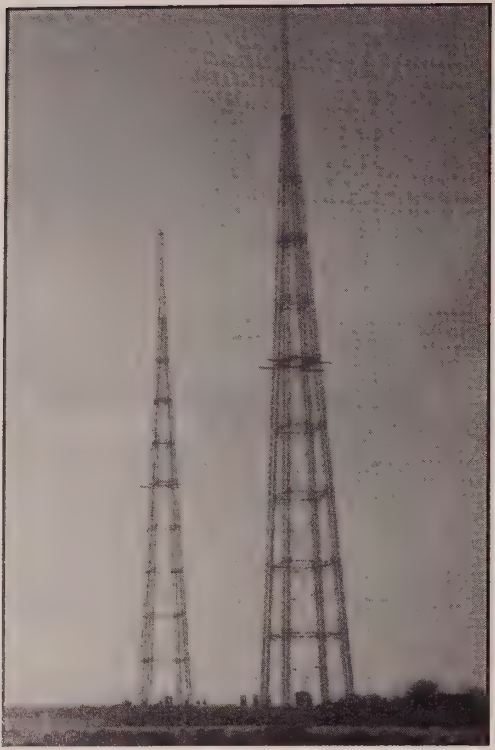
*Plus shipping and handling
**Customer pays shipping both ways.

Download the actual ***PC RADIO*** software at www.tentec.com!

800-833-7373
to order or request literature.

MADE IN TENNESSEE

TEN-TEC
1185 Dolly Parton Parkway
Sevierville, TN 37862
Office: (423) 453-7172
FAX: (423) 428-4483
e-mail: sales@tentec.com
Repair Dept.: (423) 428-0364 (8a - 4p EST)



The Swedish mediumwave station at Solvesborg on 1179 kHz. The transmitter runs 600 kW and these towers can effectively pump that up to 2000 kW east-west directional. At night, the signal covers an area populated by 165 million people.

RÁDIO
PORTUGAL
RDP
INTERNACIONAL

This tower belongs to FR3, Noumea, New Caledonia.

Mistakenly running past their 1600 sign-off with EE on SW. (Alexander, PA)
SEYCHELLES — Far Eastern Broadcasting Assn., **11705** at 1647 in unidentified language. Oriental music. (Miller, WA)
SRI LANKA — Sri Lanka Broadcasting Corp. **11905** at 0020 sign-on with local folk music, ID at 0025 and into Hindi music. (Alexander, PA) 0046 fade in. Unidentified language. Several mentions of "Sri Lanka Broadcasting" between songs. (Silvi, OH)
SUDAN — Voice of Liberty & Renewal — Sudan Alliance Forces, tentative, **7000** at 0415 with talk in unidentified language and unusual-sounding music. Irregular. (Alexander, PA) (*Another clandestine which strayed into this column.— Editor*)
SWAZILAND — Trans World Radio, **9510** at 1939 with religious broadcast. (Miller, WA)
SWEDEN — Radio Sweden, **9495** at 0230 with EE to North America. (Linonis, PA) **17870** at 1450. (Barton, AZ)
THAILAND — VOA relay, **7125** at 1406 with news. (Barton, AZ)
TURKEY — Voice of Turkey, **7300** at 2300 in TT. (Ziegner, MA)
UNITED ARAB EMIRATES — UAE Radio, Abu Dhabi, **9770** at 1634 in AA. (Barton, AZ)
UZBEKISTAN — Radio Tashkent, **5975** heard at 1200 to 1227 close. EE news, comment, ID, local music. Weaker on **//6025 and 9715**. Not heard at all on these frequencies at scheduled 1330 EE broadcast. 0100 to 0130 on 7105 with EE news, comment, ID. **//7285**.(Alexander, PA)
VATICAN CITY — Vatican Radio, **9605** at 0230 in FF with IS, ID, news. (Linonis, PA) **9650** at 0133 in unidentified language.(Miller, WA) **13765** at 1350. Off at 1404. (Zamora, TX)
VENEZUELA — Ecos del Torbes, **4980** monitored at 0217 in SS with local music. (Miller, WA)
VIETNAM — Voice of Vietnam, **9840** at 1230 to 1257 sign-off with EE news, local music, ID. Weaker on **//12019.54**. Back at 1300 in unidentified language. After 1300 reception was stronger on 12 MHz, weaker on the 9 MHz frequency. Both carried EE at 1330. (Alexander, PA)
YEMEN — Republic of Yemen Radio, **9780.3** at 1758 to past 1900 with AA prior to flute IS at 1758, national anthem at 1800, and opening in EE followed by news in EE, variety of U.S./Euro pops, AA music, news again at 1830, anthem at 1858, and back into AA. (Alexander, PA)
ZIMBABWE — Zimbabwe Broadcasting Corp., Radio Two, **3306** at 0300 sign-on with drums, EE ZBC Radio 2 ID, choral anthem, talk in vernacular, choral music, and Afro pops. ZBC Radio 4, **4828** at 0300 sign-on with choral anthem, talk in vernacular, Afro pops. Carrier on and off intermittently. At about 0319, moved to **5012**, then back to 4828 at around 0324! Also **5010** from 0300 to past 0400, drums at 0400. (Alexander, PA)

That's "30" for this month. Put your hands together and make some noise in salute to the intrepid band prowlers who did the good thing this month: Dave Jeffery, Niagara Falls, New York; Michael J. Miller, Issaquah, Washington; Lee Silvi, Mentor, Ohio; Jack Linonis, West Middlesex, Pennsylvania; Larry R. Zamora, Garland, Texas; Mark Northrup, Gladstone, Missouri; Rick Barton, Phoenix, Arizona; Brian Alexander, Mechanicsburg, Pennsylvania; Tricia Ziegner, Westford, Massachusetts and Dean Burgess, Manchester, Massachusetts. Thanks to each one of you!

Until next month, good listening! ■

The Ham Column

BY KIRK KLEINSCHMIDT, NT0Z

GETTING STARTED AS A RADIO AMATEUR

Get Ready For 6-Meter Action!

Once informally known as the "forgotten band" or the "TVI band," 6-meters — the wonderful "no-man's land" between 50 and 54 MHz — is now lovingly known as "The Magic Band." The transition from an almost empty band to one of the most exciting destinations in amateur radio makes for an interesting history.

Six meters became available to U.S. amateurs late in the game — 945 — and until recently was one of the most sparsely populated amateur radio bands. After a brief renaissance in the '60s, 6-meters slipped into relative obscurity until the early '90s, when equipment for that band became plentiful and affordable. Because most new amateur radio transceivers, mobile rigs included, incorporate 6-meters, and because we know a lot more about how 6-meters works, now is the perfect time to get started on six.

Although my handy Alinco DX-70 mobile transceiver covers 160 through 6 meters, during the daytime it hovers on the 6-meter SSB calling frequency waiting for a quick band opening.

If you think 6-meters is good only for local communication, press your reset button now. Although 50 MHz supports reliable groundwave communications up to 100 miles with low power, long-distance propagation, the Magic Band starts taking off at about this time every year. In addition, because the sunspot cycle is on the upswing, we might get lucky and experience "intercontinental" propagation on 6-meters starting this year! Technician class hams: Are you ready for the rush?

Propagation Potpourri

On the HF bands, signals are typically propagated via groundwaves or skywaves. According to lore, groundwaves travel a short distance before fading away and skywaves (if we're lucky) reflect from the ionosphere to the ground (and back again), covering longer distances.

On 6-meters — the transition zone between HF and VHF — we have a veritable buffet of possible propagation modes. These include sporadic-*E* (also known as *E*-skip), tropospheric ducting (tropo), field-aligned irregularities (FAI), backscatter, auroral propagation, meteor scatter, trans-equatorial propagation (TEP), moonbounce, and more.

I don't have enough room to cover all of these propagation modes in any detail, but if you're interested, check out the "resources" box for more information. Again, because summer is upon us, and because the sunspot cycle is cooperating, the important modes for most of today's 6-meter ops are sporadic-*E* and global F_2 propagation (used by HF operators to work the world).

Sporadic-*E*, which occurs throughout the solar cycle and does not depend in any way on sunspots, follows a seasonal pattern. When metallic ion clouds form in the *E*-layer of the ionosphere, they act as large "floating radio mirrors" that reflect and refract 6-meter signals back to Earth. Because the ion clouds, which scientists think are formed from meteors and other sources, don't exactly form on schedule, we call this sporadic-*E* propagation. Typical sporadic-*E* contacts can span several hundred to 1,000 miles or more.

When two or more sporadic-*E* clouds are positioned correctly, "double-hop" contacts can take place at distances of 2,000 miles or more. This is how East Coast hams are occasionally able to work European hams on 6-meters when the sunspot cycle is at an ebb.

Most sporadic-*E* action takes place between May and August, although winter openings in December and January are not uncommon. The hours from 9 a.m. to noon local time, and in the early evening, seem to be the most active.

Although sporadic-*E* contacts can last for hours, brief openings are the norm. Distant stations will pop in and out of the noise, become quite strong, and disappear just as quickly. This is exciting, and a bit unnerving.

This year may also bring global propagation to 6-meters. As the present sunspot cycle peaks, the ionosphere's F_2 layer will likely become energized enough to support worldwide propagation at 50 MHz. And while the maximum usable frequency (MUF) won't top 50 MHz every single day, the possibilities are very exciting.

F_2 propagation makes it possible to work Alaska and Hawaii from the continental U.S. With the double-whammy of

CQ Books

McCoy on Antennas
by Lew McCoy, W1ICP
This is truly a unique antenna book that's a must read for every amateur. Unlike many technical publications, Lew presents his invaluable antenna information in a casual, non-intimidating way for anyone!
Order No. MCCOY $15.95

W6SAI HF Antenna Handbook
by Bill Orr, W6SAI
Nearly 200 pages filled with dozens of inexpensive, practical antenna projects that work! This invaluable resource will guide you through the construction of wire, loop, yagi and vertical antennas.
Order No. HFANT $19.95

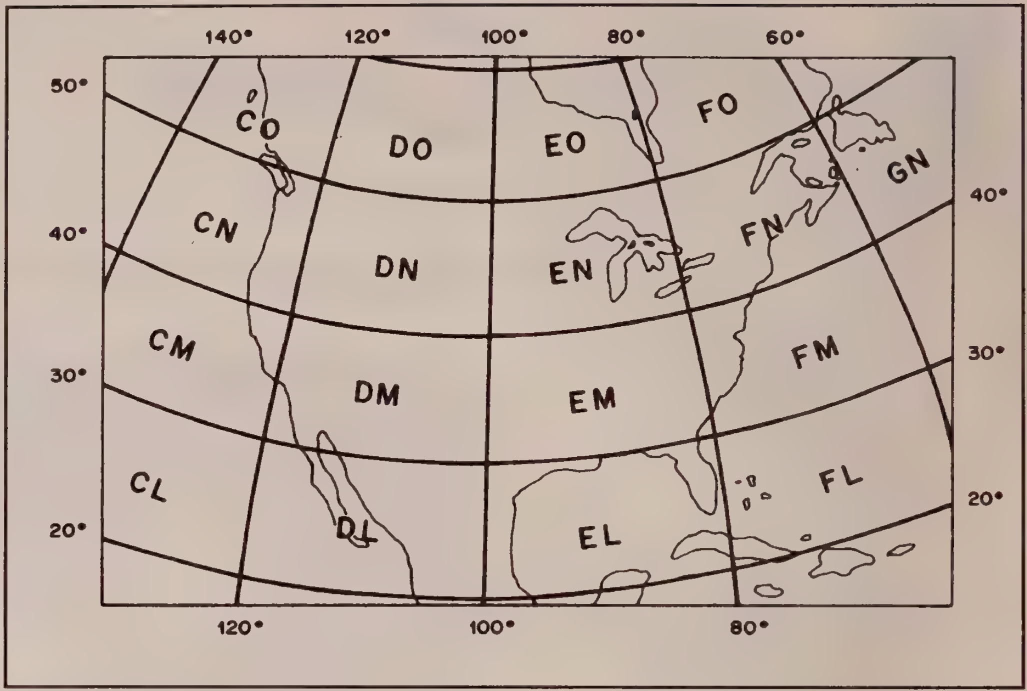
The Quad Antenna
by Bob Haviland, W4MB
Second Printing
You'll enjoy this authoritative book on the design, construction, characteristics and applications of quad antennas.
Order No.
QUAD $15.95

MasterCard VISA DISCOVER AMERICAN EXPRESS

Please add $4 shipping & handling
Free shipping & handling for orders $50 and over

CQ Communications, Inc.
25 Newbridge Road
Hicksville, NY 11801
Phone: 516-681-2922
Fax: 516-681-2926

or call toll-free
800-853-9797



Major grid square designators for North America. See column text for details.

F_2 and sporadic-*E*, 6-meter Worked All States and 6-meter DXCC are possible for less exotic stations. Go get 'em!

Radio Check!

In the old days, really good 6-meter gear was nonexistent or terribly expensive. Today, however, 6-meter hardware is readily available and much more affordable. Most new HF transceivers offer 6 meters, and dedicated 6 meter multimode radios from the early '90s (Kenwood's TS-60S and Yaesu's FT-690, for example) now sport price tags that were once impossible.

My first 6 meter radio was an Alinco DX-70 mini mobile rig. It's primarily designed for HF mobile applications from 160 through 10 meters, but because it includes 6 meters I'm able to get on that band with no additional expense. Many first-time buyers experience similar benefits. Today's radios essentially throw in 6 meters for free!

Because I acquired my radio in the dead of winter (naturally), I've only encountered two brief openings on the Magic Band. Unlike metropolitan areas, out here in the boonies, 6-meter operators are few and far between! When this column appears in print, however, the band should be jumping with activity. I can't wait!

And when it comes to antennas, 6 meters is an "easy access" band. A half-wave dipole is only 112 inches long, and a half-wave of the vertical totals just 56 inches. Full-size beams look like teeny television antennas! Rotators, masts, and antenna hardware of all sorts seem small by HF standards. Wire dipoles and full-wave loops work very well at 50 MHz and are easy to conceal, if necessary.

About the only antenna requirements that are more stringent on 6-meters are feed lines. If you use crappy, bargain-basement coax, you'll waste precious RF energy heating your cable. Coax losses at 50 MHz are about double those experienced at 10 meters. Do yourself a favor and spend a few more dollars on high-quality coax. You'll be glad you did!

Getting Started

Because 6 meter activity seems to come in "waves," hams tend to use calling frequencies to find each other. Once contact has been established, the operators can move up the band to clear frequency. The FM calling frequency is 52.525 MHz. **On USB, listen to 50.125 or 50.2 MHz.**

Because 6-meters is closed more than it's open, hams use a variety of techniques to determine when conditions are good. A series of Morse code beacons can be found between 50 and 50.1 MHz (see the list of beacon frequencies at <http://user.itl.net/~equinox/50.html>). If you can hear these low-power stations, you know the band is open between your QTH and the beacon's part of the world (or that the beacon is down the street!).

Other "band opening" detectors include monitoring distant television and FM signals. TV channels 2, 3, and 4 are just above the 6-meter amateur band, as are FM broadcast stations on the low end of that band (around 88 MHz). When TV stations from Austin, Chicago, or Kansas City show up on my TV in Minnesota, it's time to run for the radio!

Activity Nights

During contests and band openings, 6-meter activity is plentiful in most parts of the country. The rest of the time, however, contacts can be scarce. To keep things moving, weak-signal operators have established a schedule of "activity nights," with each band getting its own night. These schedules are subject to regional variation, so be sure to check things out in your area ahead of time.

Traditionally, the 6-meter activity night is Sunday at 6 p.m. local time. To participate, check the FM and SSB calling frequencies at the appointed time and listen for other local or regional operators.

Unique Awards And Activities

In addition to 6-meter WAS and DXCC (somewhat lofty goals for beginners), VHF ops have their own awards that can be pursued by just about anyone. Working "grid squares" is a primary pursuit.

In a nutshell, the planet has been arbitrarily divided into thousands of grid squares based on small increments of latitude and longitude. The U.S., for example, contains several hundred contiguous grid squares. Confirm contacts with hams in 100 of these little squares and you qualify for the ARRL's VUCC award (VHF/UHF Century Club award). The designators for each grid square have two letters and two numbers. When I lived in Connecticut, I was in grid square FN31. Now that I'm in Minnesota, it's EN25. When you hear 6-meter ops frantically exchanging grid squares during *E*- or *F*-skip QSOs, you'll know why. Grid square maps of the world and the U.S. are available from <http://www.arrl.org/locate/gridinfo.html>.

Although VHF contesting is the subject of a future column, let me just hint that it can be a real blast — and a lot different than operating contests at HF. Because the equipment is so portable, contest operators frequently travel to hilltops and mountaintops. Some stations even remain mobile! These Rover stations travel from grid square to grid square to "activate" various remote regions.

All in all, 6-meter operation puts a different twist on everything. Whether you're a first-time VHFer or an experienced HF amateur operator looking for something new, 6 meters may be just what the doctor ordered!

Wrap-Up

If you're like most hams, once you discover how much fun 6 meters can be, and how easy it is to put up decent 6 meter antennas, you'll be hooked. And don't put this opportunity off, either. For the next four to five years, 6-meter propagation and activity will probably be better than ever before. This is *the* time to get in on the fun. I hope to see you on the Magic Band!

Remember, keep your photos, letters, and column suggestions coming to "The Ham Column," c/o *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801. ■

Resources

An excellent all-around reference to "everything 6 meters" is Ken Neubeck's recently updated book, *Six Meters: A Guide to the Magic Band.* To say that WB2AMU is a 6-meter enthusiast is an understatement! Check your favorite amateur radio dealer, call Worldradio at 916-457-3655, or point your Web browser to <www.wr6wr.com> to order. Also see Ken's monthly column, "The Magic Band," in our sister publication, *CQ VHF*.

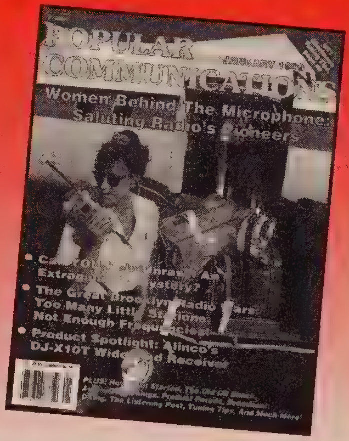
QST magazine's "World Above 50 MHz" column has been highlighting 6-meter activities for decades. It's not generally written for raw recruits, but when you get a bit of experience under your belt, check it out.

If you have Web access, check out the large, informative Internet Six News hub site at <http://user.itl.net/~equinox/>. This excellent resource site branches in *many* directions.

For information on the ARRL's VUCC award program, to download grid square maps, and more, point your browser to <http://www.arrl.org/locate/gridinfo.html>.

If you enjoy radio communications you'll love....

POPULAR COMMUNICATIONS



The World's largest, most authoritative monthly magazine for Shortwave Listening and Scanner Monitoring. Read by more active listeners than all other listening publications combined!

FAX 516-681-2926

SUBSCRIBE TODAY! SAVE 54%

*Get fast home delivery of **Popular Communications** and save $21.93 a year over the newsstand price. Save even more on 2 or 3 year subs.*

☐ 1 year - 12 issues **$25.95** (Save $21.93)
☐ 2 years - 24 issues **$45.95** (Save $49.81)
☐ 3 years - 36 issues **$65.95** (Save $77.69)

Canada/Mexico–One year $35.95, two years $65.95, three years $95.95;
Foreign Air Post–one year $45.95, two years $85.95, three years $125.95,

POPULAR COMMUNICATIONS
25 Newbridge Road, Hickville, NY 11801 • 516-681-2922 • Fax 516-681-2926

Product Spotlight

POP'COMM REVIEWS PRODUCTS OF INTEREST

BY KEN REISS
<Armadillo1@aol.com>

Uniden BC-895XLT

The long awaited base version of the TrunkTracker™ has finally become available. For the most part, it is a base version of the BC-235XLT handheld. However, there are a few surprises that are worth noting on this new scanner, particularly for non-trunked applications.

This exciting base from Uniden marks a few firsts in the consumer scanner market, particularly from this major supplier. Of course, this is the first base unit with trunktracking, but it also features an S-meter that many have been requesting for a long time. And, this is the first unit from Uniden with an RS-232 port for computer control.

The Uniden BC-895XLT is a good base station scanner that features an S-meter, computer control, and trunktracking.

Uniden chose not to publish the protocol for the computer interface in their manual. Eventually, they made it available on their Website, so if you're interested in writing your own control program you'll want to check out <http://www.uniden.com>. I try very hard not to program anything (my favorite programming language is English — telling the programmer what I want and letting him worry about it), but it appears that the 895 protocol isn't hard to follow. I've heard from a couple of developers that it could use some improvements, but we have to work with what they give us.

Software For The 895

In the meantime, several software products are currently available that support the radio. Two of them are essentially the same product. Scannermaster is offering ScanMaster 895, a scaled down version of Scanstar for Windows that supports only the BC-895, and Scanstar is offering their full product (both the Windows Plus version and Industrial). For the price, the Scanstar product is recommended simply because it is more upgradeable/expandable in the long run, and because it supports so many more radios if you should ever want that additional capability.

Radio Manager for Windows, a shareware, recently announced support for the 895. Radio Manager claims support for the entire function set of the 895, including keyboard emulation and trunking modes, but I have not been able to test it completely. It would be worth checking out at <http://www.interplaza.com/bensware/rm.htm>.

And last, but not least, the program that supports everything — ScanCat SE also includes the 895 in their lineup. I haven't had the chance to hook the two together to see how it works, but if you're already a ScanCat fan, it's a minor upgrade to get the 895 support.

The other tiny fly in the ointment is that the connectors used by Uniden on the back of the radio are non-standard. Again, let's hope that they catch on and put DB-9's or something a little more readily available on future models.

The good news is that the radio can be computer programmed quite easily with any of these programs. It makes quick work of loading frequencies into the radio, or re-programming a few banks for any particular special event. The computer can also control the radio, so that you can scan frequencies that are not programmed, but rather loaded into a database on your computer system. This does come in handy from time to time.

Trunking And Other Features

The BC-895XLT only tracks Motorola type II, type I, and type IIi systems. (Of course, their brand new handheld BC-245XLT tracks both GE Ericsson and Motorola systems).

The 895 is also the first unit from Uniden to include CTCSS as standard. While it has been an option in several recent units, every 895 owner will have this capability. The CTCSS function has also been improved to allow the CTCSS decoder to search out a tone in use. The radio will have to search through all 38 available tones during a transmission. If the transmission isn't long enough for the scanner to make it through all 38, it will wait until the next transmission and resume where it left off. It can take quite some time on a quiet channel to find the tone in use, but it's certainly better than having to guess as in the past. The down side is that there seems to be a slight bug in the CTCSS function, requiring it to be switched off and back on periodically. This seems to occur mostly after major function changes. Once your radio is programmed and running in the scan mode, it seems to hold its own.

The delay function is selectable by channel, as most Uniden scanners have been for a long time. Here's a place where the high-end equipment manufacturers need to take note!

The 895 also includes a weather alert system. When not in use as a scanner, you can leave it on in the weather alert mode. The unit will sit quietly monitoring your local NOAA Weather Radio frequency. If the National Weather Service issues any severe weather bulletins, they are proceeded by a 1050 Hz tone. This tone will cause the 895 to sound a very loud alarm at maximum volume. If you're sitting next to it when this goes off, you'll be hanging from the ceiling before you realize what's going on. It is extremely loud, and there is no volume control for the alert. Once the alert has sounded, you press the WX button to hear the weather notification. If your area is prone to severe weather, flash flooding, thunderstorms, tornadoes, hurricanes, or tropical storms, even part of the year, having a weather alert radio can keep you informed of what could be life threatening developments. It's definitely a good feature to have.

On the rear panel is a jack marked "auxiliary." This is a relay-controlled switch, which can be used to start and stop a tape recorder only on the channels that you are interested in recording. If you do any recording of transmissions at all, this will be a very convenient feature. After the tape recorder is hooked up, you designate which channels to record by pressing the AUX button on the front panel. When activity is found on that channel, the connection is closed on the auxiliary jack, and your tape recorder (if properly connected) will start recording. Using this, in conjunction with the delay feature, is very convenient for hearing more of the conversation. Of course, one of the best uses for this type of system is to record the activity of an unknown frequency while you are away.

The final observation on the 895s rear panel is a lock switch. This button will prevent accidental changes in programming once you have the scanner set up. When the lock button is activated, both the "Enter" button and the Autostore function are disabled.

Missing An Attenuator

Most notably missing from either the front or rear panels is an attenuator. On the high-end model, the BC-9000XLT, the attenuator is selectable per channel. While this is a nice feature, and a very convenient one, I would have at least expected a 10db attenuator switch, like most of the RadioShack scanners have that would apply to all channels. This function is simply not there.

As a conventional scanner, the 895 does well. Sensitivity seems good. (Depending on the antenna, of course. I have to admit that I spent most of my time with the 895 in the trunking mode, hooked up to a dedicated 800 MHz antenna.) There were a couple of images/intermod spots, but some of that may be related to my particular location. I would certainly not say that the radio is prone to interference of any sort. Of course, there is nothing else on the market currently that will trunk nearly as easy as the TrunkTracker™ radios. Once again, the unfortunate thing is that you can not combine both modes, but if you think about a busy trunked system, you probably wouldn't want to. Dedicating the radio to trunking or scanning is probably the smart way to handle it. There's just too much activity on most trunking systems to allow time for regular scanning too — you can always buy two 895s and use one in each mode.

Well, there you have it. The BC-895XLT represents a good base station for someone interested in trunking, or interested in some of the features of the higher-end models without the associated price. If you prefer base units over handhelds, or if you want a trunking base scanner, you'll like this model. The 895 is my personal favorite of the trunktracking scanners and the one I'll turn on first to listen to the City of St. Louis.

For more information on the BC-895XLT, which retails for $499.95, contact Uniden America Corporation, 4700 Amon Carter Boulevard, Fort Worth, TX 76155. Be sure to tell them you read about it in *Popular Communications!* ■

Uniden Bearcat BC-9000XLT

The 9000 is the current top-of-the-line of base scanners from Uniden. It appears that the 9000 is the direct replacement for the BC-8500, which was discontinued from production some time ago, but is still available from a few dealers. Off hand, I can't think of any reason you'd want the older model, given the 9000 as a choice, unless you got one heck of a deal.

At first glance, the 9000 looks pretty much like the 8500 and its smaller brother, the 890 (also marketed as the Radio Shack PRO-2036). It appears, however, that the visual similarity is only skin deep. The 9000 is a very different radio, and appears to have overcome many of the shortcomings of the 8500. The 9000 retains many of the features of the earlier model, but with some major improvements. It still has 500 channels in 20 banks and covers from 25–1300 MHz (less cellular, of course, and 550–760 MHz). It is rated to scan at up to 100 channels per second (using frequency sorting) and search at up to 300 steps per second. Frequency sorting means that the channels are scanned in frequency order, regardless of the arrangement of channels in memory. This allows the scanner to avoid large changes in frequency most of the time. It's much easier on the circuitry to jump just a few kHz and re-tune all the necessary circuits than to jump 400 MHz to another band and re-tune. This translates directly to how fast the scanner can check a frequency and hop to the next channel. This also explains why the scanner displays the word "SCAN" moving on the screen rather than the frequencies as it scans. The frequencies are not being scanned in the order you entered them.

Uniden's BC-9000XLT is their top-of-the-line model.

All of the radios in this family are equipped with a VFO knob on the front panel. It is a useful size, without completely taking over the front panel. This control can be used to dial up and down in frequency, just like a VFO (Variable Frequency Oscillator) on a communications receiver, or it can be used to dial up and down the memory channels quickly. It is also possible to directly enter a desired memory channel if you prefer to jump right to it. The VFO knob is also used to enter alpha tags (sorry, no keyboard for characters) and CTCSS tones when the scanner is equipped with the optional tone board.

Significant Improvements

One of the most significant improvements is that there is now a delay setting that can be selected by channel, rather than all or nothing. This was a surprising limitation on the 8500, since many other high-end scanners have had channel-selected delay for some time. On the 9000, the delay button has an LED in it, which lights whenever the delay is set for the channel that is currently active.

Another major improvement is the IF frequencies have been changed to provide more favorable performance in the areas that most of us listen to without annoying intermod or other interference. While the 8500 was not as bad as some radios I've seen, it did occasionally have problems on some of the lower VHF frequencies. The 9000 seems much more resistant to this type of interference.

Auto search and store allows specific banks to be designated during a search operation, and any active frequencies will be stored in those banks. Once the banks are full, the search operation stops. One of the features of this function that is very helpful is that the active frequency will only be stored once during the auto search session. So, if there's a particularly busy paging operation in your search range, it will only waste one of your channels in the auto search, rather than filling up the entire available memory with the same frequency. This also makes it much easier to delete undesired channels.

One of the truly convenient features of this radio is that it will not scan empty channels. So, for instance, if you've only programmed 10 channels in a 25-channel bank, you don't need to spend time locking out the extra 15 channels as on most other scanners. With 500 channels, this is a real time saver.

Alpha Tags

The 8500 was the first Uniden scanner to introduce Alpha tags on memory channels, and the 9000 also carries this feature. This allows you to store a 16 character name with the channel memory and choose to have that information displayed instead of the actual frequency. If you don't have a computer-controlled system to do this, this is the next best thing, and is very handy. The 8500 would only allow alpha tags to be stored on the first 250 channels, which limits the usefulness of the feature. The manual for the 9000 says that it too, will only allow tags on the first 250 channels, but research has shown that alpha tags can be entered on any 250 of the 500 channels. It does take a while to do, although it is a bit easier than on the 8500.

Other Neat Features And Bottom Line

The 9000 also features an attenuator switchable by channel! This is one of very few radios to offer this somewhat unusual feature. In an area of high interference, the attenuator could be switched on only when needed, without reducing the sensitivity of the entire scanner, as is required by most scanner attenuators. Hopefully, this is a feature you won't need often, but if you do, it could really make a big difference. The CTCSS option greatly reduces the need for attenuation due to interfering stations.

There is also an "aux" control to allow a tape recorder pause jack to be controlled, once again, by channel. This way, you could choose to record only certain channels that you were interested in, and the radio would switch the recorder on and off as required so that there would not be long blank pauses between transmissions. This is a feature only available by computer-control before the 8500 and will prove extremely handy for those who like to record unknown frequencies, or all the action while you're away.

Finally, both the 8500 and 9000 can have an optional CTCSS board installed for tone squelch on a channel-by-channel basis. The CTCSS unit on these two scanners is supposed to be the same, and it features the ability to "dial" though the possible tones using the VFO dial. This makes finding unknown tones a bit easier, since you can simply "dial through" the possibilities without having to actually program each tone in memory. It would be nice if the scanner would step through the possible tones for you, but that feature doesn't arrive until the BC-895. Once you've found it, the tone squelch function works great.

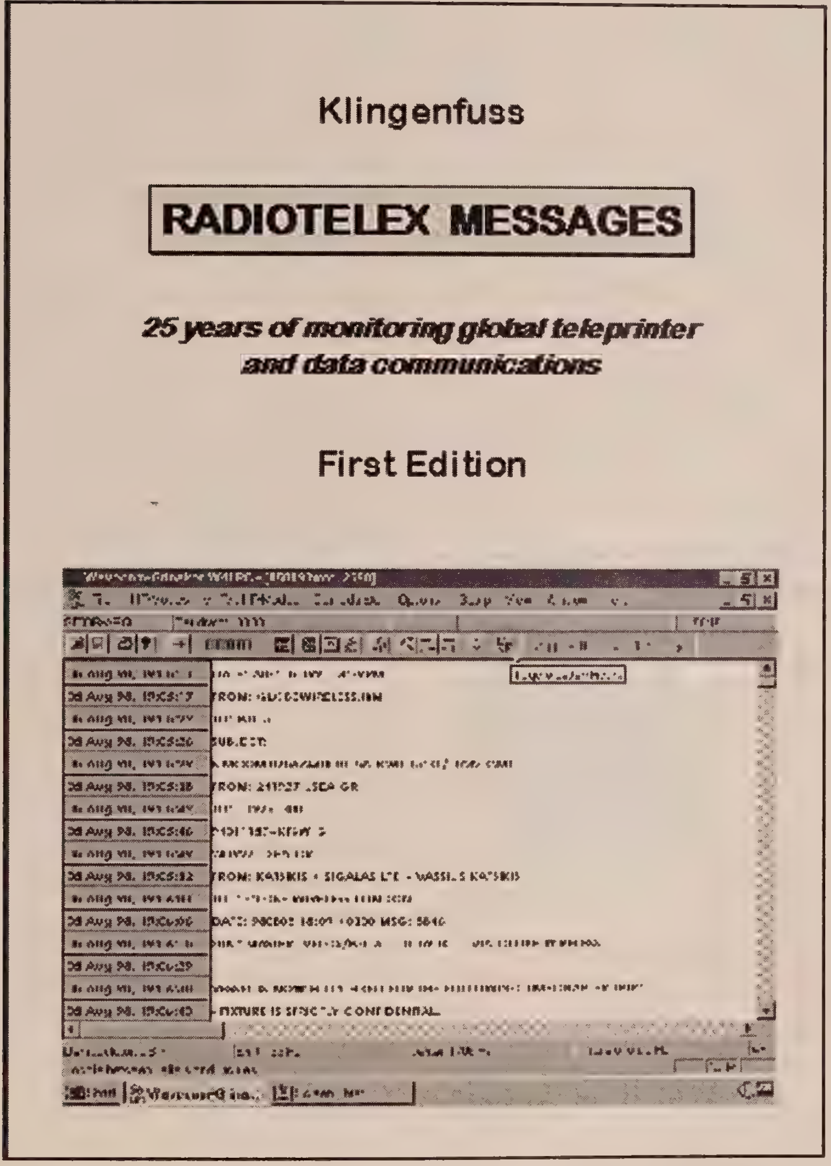
The final word on this scanner appears to be that they have a winner. While it isn't necessarily the ultimate scanner for everyone, the features that are there are well-implemented. This scanner seems to be worthy of being called Uniden's top-of-the-line (a title that was argued as not fitting for the 8500). If you're in the market for a high-end conventional base scanner, the 9000 is something you should check out.

For more information on the Uniden BC-9000XLT, contact Uniden America Corporation, 4700 Amon Carter Blvd., Fort Worth, TX 76155 or your favorite radio dealer. It retails for $699.95. ■

Radiotelex Messages, 25 Years Of Monitoring Global Teleprinter And Data Communications,

First Edition By Joerg Klingenfuss/Klingenfuss Publications

By Richard "RD" Baker



Klingenfuss

RADIOTELEX MESSAGES

25 years of monitoring global teleprinter and data communications

First Edition

Radiotelex Messages *is a comprehensive sampling of radiotelex messages from various stations, past and present.*

I just recently had a chance to read this unique new guidebook. *Radiotelex Messages, 25 Years Of Monitoring Global Teleprinter And Data Communications* (ISBN 3-924509-16-6 softbound) covers several decades of digital monitoring between 1974 and 1998. At 568 pages, this is the First Edition of this book which serves not only as a reference book, but a book nostalgia fans will enjoy.

One of my fondest memories when I was a "wee lad" was being granted passage into the radio shack of a family friend when we visited. He was an avid amateur radio operator, but also immensely enjoyed the reception of

Motron Electronics
PO Box 2748
Eugene, Oregon 97402
(800) 338-9058
DTMF: Decoder/Encoder, Display & ASCII Conversion
Transmitter FingerPrinter & Mobile Adaptor
Remote Relay Controllers & Relay Boards
Custom OEM Design & Manufacturing
Tel: (541) 687-2118 Fax: (541) 687-2492
Http://www.motron.com/

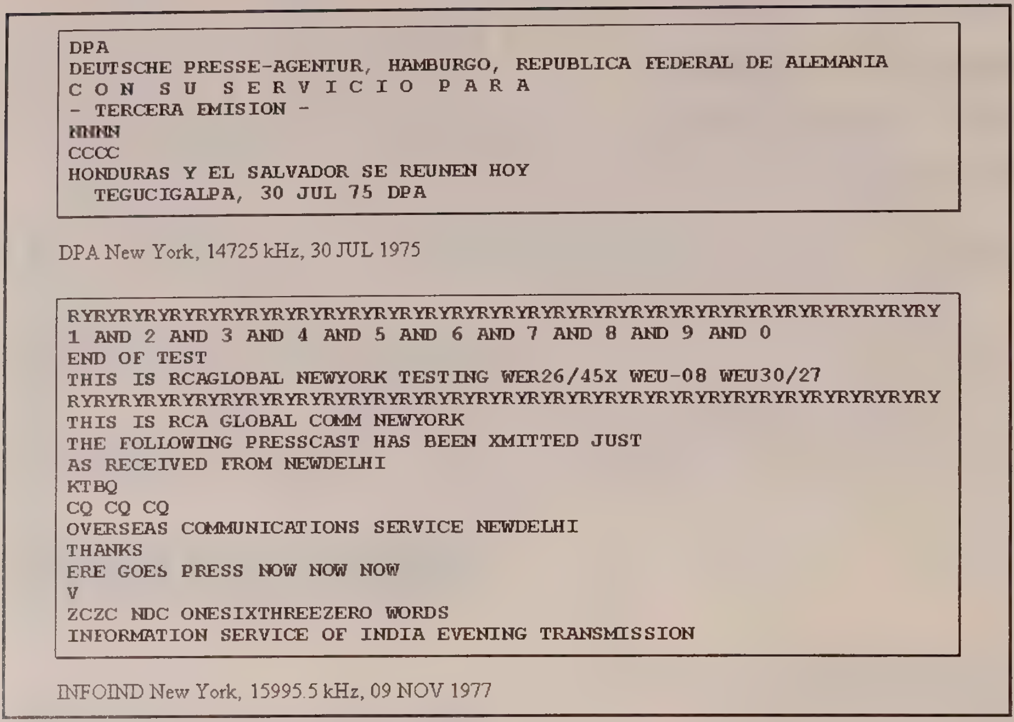
CANADIANS ONLY!
We have great selection of full-coverage scanners including AOR, Bearcat, Welz, and Yupiteru. We also carry scanner interfaces for the ultimate in scanning experience.
- Continuous coverage from 530kHz to 2040MHz
- Modes: WFM, NFM, SNFM, AM, USB, LSB & CW
- Large back-lit LCD display with contrast control
- User defined memory bank layout
- Extensive search & scan facilities
- PC Programmable

AOR AR8200
Durham Radio Sales & Service, Inc.
350 Wentworth St. E., Oshawa, Ont. L1H 7R7
Ph: (905)436-2100 Fax: 436-3231
Web: http://www.durhamradio.com e-mail: info@durhamradio.com

MOVING?
If you're planning a move in the near future, don't risk missing an issue of Popular Communications Please give us 6-8 weeks notice if you're planning on changing your address. Just write your new address and mail it, WITH YOUR SUBSCRIPTION MAILING LABEL, to:
POPULAR COMMUNICATIONS
25 Newbridge Road, Hicksville, NY 11801

YOU AIN'T HEARD NOTHIN'.. YET
CRB Research's CB Modification SECRETS
Radio Hacker's Guide
Tune In On Telephone Calls! Intercept That Call! 3rd Edition
Since 1967, CRB Research has been the world's leading publisher and supplier of unique hobby and professional books and information including:
- Scanner Frequency Guides
- Shortwave Frequency Guides
- Military/Federal Communications
- Undercover Communications
- Survival Communications
- & Other Related Topics!

New titles are constantly being added to our exciting catalog. If it's interesting and unusual, we've got it. You'll see.
Ask For Big Free Catalog
CRB RESEARCH
P.O. Box 56, Commack, NY 11725
Phone: (516) 543-9169
FAX (516) 543-7486
e-mail:sales@crbbooks.com
www.crbbooks.com
CIRCLE 11 ON READER SERVICE CARD



```
DPA
DEUTSCHE PRESSE-AGENTUR, HAMBURGO, REPUBLICA FEDERAL DE ALEMANIA
C O N  S U  S E R V I C I O  P A R A
- TERCERA EMISION -
NNNN
CCCC
HONDURAS Y EL SALVADOR SE REUNEN HOY
  TEGUCIGALPA, 30 JUL 75 DPA
```

DPA New York, 14725 kHz, 30 JUL 1975

```
RYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRY
1 AND 2 AND 3 AND 4 AND 5 AND 6 AND 7 AND 8 AND 9 AND 0
END OF TEST
THIS IS RCAGLOBAL NEWYORK TESTING WER26/45X WEU-08 WEU30/27
RYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRY
THIS IS RCA GLOBAL COMM NEWYORK
THE FOLLOWING PRESSCAST HAS BEEN XMITTED JUST
AS RECEIVED FROM NEWDELHI
KTBQ
CQ CQ CQ
OVERSEAS COMMUNICATIONS SERVICE NEWDELHI
THANKS
ERE GOES PRESS NOW NOW NOW
V
ZCZC NDC ONESIXTHREEZERO WORDS
INFORMATION SERVICE OF INDIA EVENING TRANSMISSION
```

INFOIND New York, 15995.5 kHz, 09 NOV 1977

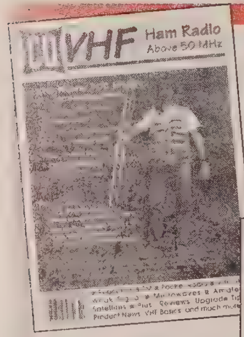
Sample entries from DPA New York from July 1975, on 14725 kHz.

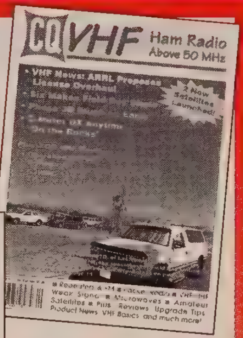
RTTY utility stations. His operation was a monster layout, the centerpiece of which was an old Western Union style "clatter-box" teleprinter machine that spewed continuous reams of yellowish paper from mostly exotic news organizations around the world. So in opening the book, viewing the old marker tapes of Associated Press, New York and Reuters, London, to name a few, brought back some great memories, and was a real trip down memory lane.

The book is divided into two basic sections; "Then" and "Today." These sections are then divided into country of origin. There are hundreds of samples that give insight into dozens of message formats. The book covers 1,004 messages and gives screenshots of 692 utility stations from 136 countries. Included separate sections are 364 station and traffic abbreviations, telex codes, plus all Q-code and Z-code groups. The station and message samples provide very comprehensive coverage of global aeronautical, commercial, diplomatic, maritime, meteorological, military, navigation, police, press, public, and embassy/government digital communications on shortwave. Many types of modes are included within the assortment of stations.

I mentioned a few of the "Then" stations, which are fascinating to see again or view for the first time. There are 136 pages worth of these samples. However, moving on to the "Today" section, it has over 400 pages of station and message samples presented in the screenshot/screen capture format. This section compliments the other Klingenfuss standard, *Radio Data Code Manual*, very well. If you have never seen a maritime traffic list, or if you have never seen a military station availability tape, and if you have always wondered what a "RYRY," SGSG, or Le Brick looked like — they are here. Always wondered exactly what ATU-80 Arabic text looks like when received in the Latin alphabet? How about AAXX or BBXX meteo reports? There are samples of each of these messages, along with some pretty good translating ideas, in these pages. Stations MFA Warsaw, Rogaland Radio, Nairobi Meteo, various French Forces, and many others, are included.

Radiotelex Messages is a book that anyone who is presently interested, or has had any interest in shortwave digital communications, will read for the enjoyment and then keep as a reference book to be referred to in the future. For more information and the current price, contact Klingenfuss Publications, Hagenloher Str. 14, D-72070 Tuebingen, Germany or phone 011-49-7071-62830. You can also send them an E-mail to <klingenfuss@compuserve.com> or visit their Website at <http://ourworld.compuserve.com/homepages/Klingenfuss/>. ■





Tune In With

CQ VHF Ham Radio Above 50 MHz

The NEW magazine for all ham radio operators who are active or interested in operating on the bands above 50 MHz!

In every issue you'll find: Operating articles, Technical articles, Beginner's articles, Product reviews, Projects you can build, News and columns and New things to try. All year long, each issue of **CQ VHF** guarantees to show you **WHAT**, **WHY** and **HOW** to do more above 50 MHz.

	USA	VE/XE	Foreign Air Post
1 Year	☐ 24.95	☐ 34.95	☐ 44.95
2 Years	☐ 45.95	☐ 65.95	☐ 85.95

If mailing in subscription order, please enclose check or credit card information with expiration date (MasterCard, Visa, Amex and Discover accepted).

Please allow 6-8 weeks delivery

CQ VHF
25 Newbridge Road, Hicksville, New York 11801
Phone: 516-681-2922 FAX:516-681-2926

Broadcast DXing

BY BRUCE CONTI
<BAConti@aol.com>

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

Radio News From Around The World And Your Neighborhood

The Jamaican Broadcasting Corporation (JBC) is history, leaving the Caribbean island country with just one major radio and TV network. JBC was sold to RJR/Radio Jamaica in October, 1997, with the transaction to be completed by December, 1998. Other than some of the TV facilities that were awaiting construction of new studios, the deal was completed on schedule. However, RJR suffered significant losses in the last fiscal year due to the cost of the merger, and it was reported to be considering financial backing from investors outside Jamaica.

The former JBC Radio One broadcasting from Montego Bay at 700 kHz is now relaying RJR programs on parallel 720 kHz from Kingston. JBC and RJR have a shared history. Radio broadcasting began in Jamaica back in 1939 with the conversion of ham station VP5PZ to public broadcast station ZQI on 720 kHz. The JBC name was initially associated with the first commercial license awarded by the government in 1949 to what became better known as Radio Jamaica Rediffusion or RJR. Then the government decided to begin public broadcasting using the JBC name. I'm not sure exactly when it happened, but it was around 1960 when JBC and RJR went their separate ways. Now, it appears that history has come full circle with the merging of JBC and RJR.

In response to a recent Broadcast DXing log report of Hitradio Veronica on 828 kHz, Karl-Erik Stridh of Sweden writes, "In January 1998, they got FM transmitters and the Rotterdam frequency was taken over by Arrow Classic Rock which transmits automated rock music around the clock. The 1224 kHz transmitter aboard the ship *MV Communicator* was taken over by Q Radio with a format of world music, using studios in the old East German railway cars at the station of Zupften in the eastern part of the Netherlands. I'm told the ship has moved to Almere, closer to Amsterdam. The ship is best known for the Laser 558 broadcasts in the '80s on the North Sea."

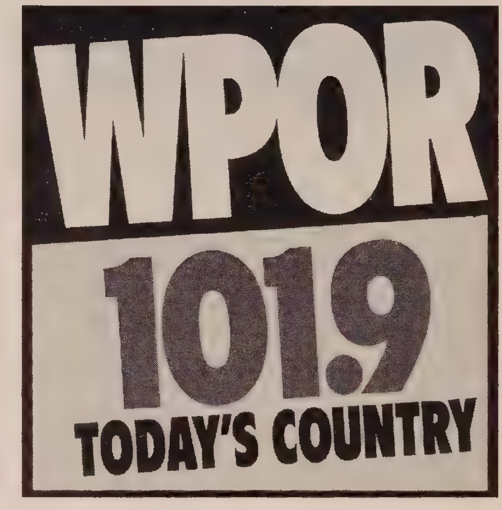
Stations from the Netherlands are often heard from North American east coast locations, including 828, 1224, and Business Radio on 1395 kHz from Lopik.

Closer to home, WLIB, New York is now on full time at 1190 kHz. WLIB purchased WOWO Ft. Wayne, Indiana also on 1190, in order to be able to file an application with the FCC for full-time operation. The WOWO nighttime antenna pattern was changed and power was reduced so WLIB could begin full-time broadcasting with a nighttime power of 30,000 watts. WLIB used to have to sign-off at sunset because WOWO had clear channel rights. The change has been transparent to most WOWO listeners, as the WLIB night antenna pattern protects the WOWO listening area to the west.

CBF Montreal on **690 kHz** is off the air. The former French-language CBC outlet has completed the move to FM. However that does not mean that the frequency will remain silent forever. A new French-language all-news service is being considered for either 690 or 940 kHz in Montreal. Several commercial broadcasters have also expressed an interest in the frequencies. For now, 690 kHz has become a Latin American shooting gallery, with Radio Recuerdos from Bogota, Colombia, and Cuba's Radio Progreso, among others, being heard most often. WOKV, Jacksonville, Florida, is another good target for listeners in the northeastern U.S. and Canada while **690 is silent**.

Recent merger-mania has hit the San Diego market, resulting in the changing of XEHRM FM 92.5 from alternative rock to classic R&B after being purchased by Jacor. This leaves "91-X" XETRA-FM as the only commercial source of alternative rock in the region. Jacor also owns 91-X, "Channel 93.3" KHTS FM, and all-sports XETRA 690 AM. More changes are on the way in San Diego with the reorganization of CBS-owned stations.

Talk radio is growing on FM in Maine. WVOM 103.9 "The Voice of Maine" has purchased WBYA 101.7 FM to expand their talk radio coverage. Other changes have come to the volatile down-east radio market as well. "B-97" WWBX 97.1 has become "Bangor's continuous hit music station" and the "Classical Wave" WAVX 106.9 is now WBQX "W-Bach" under new ownership, simulcasting WBQQ and WBQW on Maine's Classical Network.

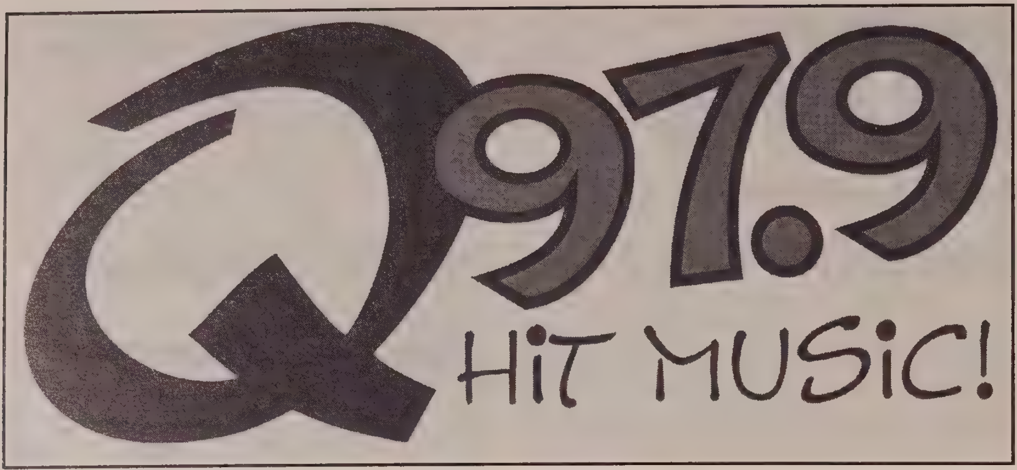


Bumper sticker from Portland, Maine's top country music station.

DXers in the Portland area might be confused about the call letters in use on 1440 kHz. The station IDs as Sports Radio WJAB, but the actual call letters are WJAE. Sports fans might believe that the JAB refers to boxing, but actually the WJAB call letters are from the 1960s when they were originally on 1440.

Classic rocker WBLM 102.9 continues to hold its lead in the Portland ratings race, followed by contemporary hit music "Q 97.9" WJBQ and country 101.9 WPOR-FM.

The FCC is closer to adopting new rules for micro broadcasting on FM. The FCC proposal will allow stations to operate with anywhere from 1000 watts to as little as 1 watt on FM, mainly in the non-commercial band from 88.1 to 91.9 MHz. Twenty years ago, non-commercial stations were allowed to broadcast with only 10 watts, before the FCC revised the rules in a move that was supposed to reduce interference. In the late 1970s, many of the low-power FM stations were forced to either increase power or give up their frequencies. Thanks in part to the micro



Bumper sticker from WJBQ, Portland's top contemporary hit music station.

broadcasting movement, the FCC has recognized that the limited spectrum, combined with the 1996 relaxation of ownership regulations leading to corporate takeovers and skyrocketing price, have driven individuals or small business out of the radio market.

FM DX Tips

Gus Mancuso of the Worldwide FM-TV DX Association (WFTDA) sends along these FM DXing tips; "The best time for tropo DX is in the morning, 7 to 9 a.m. local time in the summer, with the best bet being sunny and humid weather conditions. The evaporating dew in the morning helps signals. If you live near a bay or a big lake, the evaporation off of it is even better." Mancuso mentions that from his Maryland location, Norfolk, Virginia stations are dominant until the Chesapeake Bay waters get warmer and Philadelphia stations take over. "When a cold front is approaching, especially late summer and early autumn, reception is enhanced at right angles to the direction of the front. For example, if the front is coming from the west/northwest, then you should experience good reception to the north/northeast and south/southwest (essentially parallel to the frontal boundary). This enhancement can be awesome when combined with hot summer morning conditions," he reports. Mancuso says an outdoor antenna may not be the best option for FM DXing. "Unless you live in the boondocks, use plain-old rabbit ears instead of a rooftop antenna and rotor. The important thing is to null strong adjacent channel pests. Place one ear vertically and one horizontally, and swivel the horizontal ear to obtain best reception. You can also move the base or tilt the whole antenna in the needed direction. A rooftop antenna doesn't provide this much flexibility. The key is selectivity, not sensitivity." Finally, Mancuso says, "Most of the WTFDA fanatics modify receivers to increase selectivity. This is done by changing the filters that control selectivity. It will reduce fidelity somewhat."

QSL Information

1100 KNZZ, Grand Junction, Colorado, letter in 12 days from Lisa McCoy-Office Manager. Address: 1360 E. Sherwood Drive, Grand Junction, CO 81501. (Martin, OR)

1190 WBMJ San Juan, Puerto Rico, letter and brochure in 15 days, signed Sylvia Tolbert, Office Manager. Address: P.O. Box 367000, San Juan, PR 00936-7000. Logged before WLIB went full time. (Conti, NH)

1210 WPHT Philadelphia, Pennsylvania, QSL card and letter with key chain in 21 days for taped tentative report. Signed Sam A. Virgillo-Tech. Address: City Avenue & Monument Rd., Philadelphia, PA 19131. Haven't heard this since it was WCAU years ago! I received two QSL cards with photos of the old WCAU in 1950. (Martin, OR)

Broadcast Loggings

All times are UTC.

610 WGIR Manchester, New Hampshire, at 1100 with ID for "The WGIR Action News Network: WGIR 610, WGIN 930, and WGIP 1540." (Conti, NH)

693 BBC Radio 5, Droitwich, England, et al., at 0300 news in English; fair. (Connelly, MA) At 0500 with "909 and 693" ID, an easy target with CBF off. (Conti, NH)

760 R. Record, ZYH888, Fortaleza monitored at 2250 fanfare music, talk in Portuguese; in messy jumble with apparent Guyana, Venezuela, and Colombia. (Connelly, MA)

1070 KNX Los Angeles, California, "blowtorch" signal at 0420 with local traffic and weather, then Robert Ridell at the "KNX Financial Desk" with stock report. "All you need to know, KNX 1070 Newsradio" ID. (Kelly, AZ)

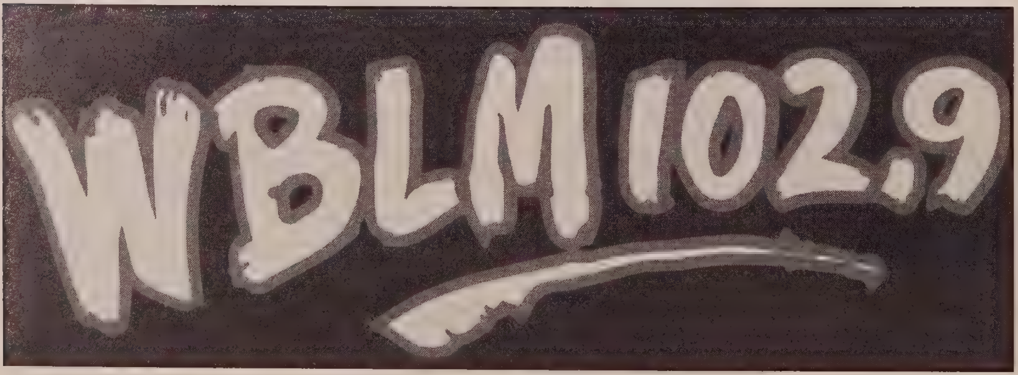
1089 Talk Radio, England, at 0405 with "1053 and 1089 AM" ID and Mike Dicken telephone talk show. (Conti, NH)

1270 KXPS Thousand Palms, California, at 0500 with "The desert's sports authority" ID and One-On-One Sports, hammered by KDJI Holbrook, AZ. (Kelly, AZ)

1350 WOYK York, Pennsylvania, at 0200 with ID for "WOYK York-Lancaster, WPDC Elizabethtown-Harrisburg, and WVZN Columbia," and ESPN Radio. (Conti, NH)

1548 VOA Kuwait City, Kuwait, at 0235 VOA news in English about Kashmir Solidarity Day, then an item about Monica Lewinsky and the impeachment trial. Huge signal, totally annihilating the 1550 domestics. This had been blasting in on the car radio (along Route 6 on the way to Harwich) over the previous half hour. (Connelly, MA)

1620 KSMH Auburn, California,



Bumper sticker from down-east classic rocker WBLM in Maine, consistently number one in the ratings.

good well over KYIZ in the middle of the day, with Catholic programming, monitored at 2057 with full ID, as "KSMH, AM 1620, Auburn," with mailing address and phone number, asking for comments. (Martin, OR)

1620 WHLY South Bend, Indiana, good under KYIZ with ID after a Bette Midler song at 1000, "WHLY, South Bend" into network news, then mixing with KYIZ and an unid station (WPHG?). Best heard in a while. (Martin, OR)

Thanks to Mark Connelly, Bob Gilbert, William Hassig, Nile Kelly, Gus Mancuso, Patrick Martin, and Karl-Erik Stridh. Keep those MW logs coming!

Also, Alan Shippee in Rhode Island sent a note about pirate radio station WICE FM in Johnston, Rhode Island, which was recently shut down by the FCC. The station was operated by WHJY-FM's Steven Conti. Sorry, but there's no relation. By the way, WICE was once a popular rock and roll station at 1290 kHz from the 1950s into the '70s when music was big on AM radio. I grew up listening to WICE, along with WPRO, WGNG, and clear channel rockers WABC, WNBC, WRKO, and WKBW. How times have changed! 73

Applied For Permits To Construct New FM Stations

AR	Arkadelphia	91.9 MHz	
AR	Deque	88.7 MHz	
AR	Pangburn	99.1 MHz	
AZ	Bullhead City	89.9 MHz	
CA	Firebaugh	90.5 MHz	
CA	Mendota	90.5 MHz	
CA	Niland	91.7 MHz	
CA	Point Arena	102.3 MHz	
CA	Point Arena	107.1 MHz	
CA	Tracy	90.7 MHz	
CO	Hayden	89.7 MHz	300 watts
CO	La Junta	89.1 MHz	720 watts
CO	Silverton	103.7 MHz	
FL	Cape Canaveral	88.7 MHz	
FL	Cudjoe Key	88.3 MHz	
GA	La Grange	91.9 MHz	3 kW
IA	Oskaloosa	90.5 MHz	250 watts
ID	Pocatello	89.5 MHz	
ID	Pocatello	90.1 MHz	
ID	Pocatello	90.3 MHz	
IN	Logansport	89.3 MHz	
IN	Morgantown	90.9 MHz	
IN	Plymouth	89.3 MHz	
IN	Veedersburg	88.5 MHz	1 kW
KS	Emporia	89.7 MHz	1 kW
KS	Oberlin	91.1 MHz	
MA	Bedford	88.1 MHz	500 watts
MI	Chelsea	89.7 MHz	
MI	Grand Blanc	89.7 MHz	
MI	Ironwood	88.1 MHz	200 watts
MI	Lapeer	88.9 MHz	
MI	Marlette	89.7 MHz	
MI	Pentwater	88.1 MHz	
MI	Portage	91.9 MHz	
MI	Remus	88.1 MHz	
MN	Austin	90.1 MHz	600 watts
MN	Brainerd	88.3 MHz	
MN	Lakeville	95.9 MHz (Experimental)	
MN	Windom	88.1 MHz	
MO	Bowling Green	89.7 MHz	
MS	Biloxi	88.1 MHz	
MS	Bude	104.3 MHz	
MS	Columbus	88.5 MHz	
MS	Forest	90.5 MHz	
MT	Billings	88.1 MHz	
NC	Lumberton	89.5 MHz	
ND	Fargo	89.5 MHz	4.2 kW
NE	Hastings	90.9 MHz	500 watts
NM	Hobbs	90.9 MHz	
OK	Coweta	88.1 MHz	
OR	Redmond	88.9 MHz	125 watts
OR	Sisters	89.3 MHz	1.35 kW
OR	Welches	90.3 MHz	310 watts
PA	Altoona	91.1 MHz	
PA	Bedford	91.1 MHz	
PA	Carbondale	90.9 MHz	
PA	Halifax	88.5 MHz	
PA	Honesdale	90.9 MHz	
PA	Markleysburg	89.1 MHz	100 watts
PA	State College	88.5 MHz	
PA	State College	89.1 MHz	
PA	Westmont	90.7 MHz	
TN	New Johnsonville	89.7 MHz	
TN	Waverly	90.9 MHz	
TX	Carlsbad	90.0 MHz	
VA	Fredericksburg	89.5 MHz	
VA	Spotsylvania	89.5 MHz	
WA	Olympia	89.3 MHz	

Applied For Permit To Construct New AM Station

MN	Lakeville	920 kHz (Experimental)

Granted Permits To Construct New FM Stations

CA	Merced	94.1 MHz	1.25 kW
GA	Jasper	88.3 MHz	
MO	Moberly	90.1 MHz	
ND	Tioga	104.1 MHz	
ND	Williston	98.5 MHz	
OH	Delphos	91.5 MHz	
PA	Allentown	93.5 MHz (Experimental)	
TX	Winona	102.7 MHz	
UT	Levan	99.1 MHz	

New FM Licenses Issued

KAJI	Port Comfort, TX	94.1 MHz
KAPV	Elma, WA	102.1 MHz
KKCH	Glenwood Springs, CO	92.7 MHz
KLVN	Livingston, CA	88.3 MHz
KRMB	Bisbee, AZ	90.1 MHz
WJNG	Johnsburg, PA	100.5 MHz
WJNI	Ladson, SC	106.3 MHz
WJRV	Richmond, VA	105.7 MHz
WOKE	Garrison, KY	98.3 MHz
WPHG-FM	Brewton, AL	90.9 MHz

New AM License Issued

KZTU	Junction City, OR	660 kHz

Reinstated

WJTA	Kosciusco, MS	91.7 MHz

Cancelled

WKCO	Gambier, OH	91.9 MHz
WLMJ	Jackson, OH	1280 kHz
WOLY	Battle Creek, MI	1500 kHz

Seeking AM Facility Changes

KKTR	Costa Mesa, CA	1650 kHz	Seeks move to Torrance, 490 w. nights
KRKS	Denver, CO	990 kHz	Seeks power change
KTBK	Denison, TX	1700 kHz	Seeks move to Sherman, 700 w. nights
WVNS	Claremont, VA	670 kHz	Seeks to add 220 watt night service

Changed AM Facilities

KAZP	Bellevue, NE	1620 kHz	Changed power
WCTZ	Clarksville, TN	1550 kHz	Changed night power
WMCL	McLeansboro, IL	1060 kHz	Added 2 watt night service

Seeking Changed FM Frequencies

KBEB	Hamilton, MT	98.1 MHz	Seeks 98.7 MHz
KOXE	Brownwood, TX	101.5 MHz	Seeks 101.3 MHz

Changed FM Frequency

KBDJ	Ruston, LA	99.5 MHz	Changed 99.3 MHz

Pending AM Call Letter Changes

New	Old	
WMXG	WBAW	Barnwell, SC
WSAA	WSUN	St. Petersburg, FL
WZMZ	WLQY	Hollywood, FL

ORGANIZE AND PROTECT YOUR COPIES OF

POPULAR COMMUNICATIONS

Now there's an easy way to organize and keep copies of your favorite magazine readily available for future reference.

Designed exclusively for *Popular Communications* by Jesse Jones Industries, these custom-made titled cases and binders provide the luxury look that makes them attractive additions to your bookshelf, desk or any location in your home or office.

Each binder/case is covered durable leather-like material; title is hot stamped in gold.

Whether you choose cases or binders, you'll have a storage system that's durable and well organized to help protect your valuable copies from damage.

Quantity	Cases	Binders
One	$ 8.95	$11.25
Three	$24.95	$31.85
Six	$45.95	$60.75

Add $1.50 per case/binder for postage and handling.
Outside USA $3.50 per case/binder. (U.S. funds only)

Credit cards accepted: AMEX, Visa, MasterCard, Diners Club (Min. $15) *PA Residents add 7% sales tax Allow 4 to 6 weeks delivery*

Popular Communications
Jesse Jones Industries, Dept. 95 PC
499 East Erie Avenue, Phil., PA 19134

Call TOLL FREE 7 days, 24 hours
1-800-825-6690

Changed AM Call Letters

New	Old	
KCCF	KNTR	Ferndale, WA
KCJJ	KCJK	Iowa City, IA
KCJK	KCJJ	Iowa City, IA
KOKP	KVCS	Perry, OK
KWMO	KSLQ	Washington, MO
WBVA	WBHO	Bayside, VA
WJLG	WEAS	Savannah, GA
WKEA	WBTS	Bridgeport, AL
WKGJ	WMBO	Auburn, NY
WNBX	WCFR	Springfield, VT
WTEL	WYRU	Red Springs, NC
WWDB	WTEL	Philadelphia, PA
WWVT	WNNI	Christiansburg, VA

New FM Call Letters Issued

KBJU	Bagdad, AZ
KBJV	Sanger, TX
KBJX	Shelley, ID
KBJY	Ennis, MT
KLNQ	Des Moines, IA
KTLC	Canon City, CO
WBDJ	Middleton, TN
WBEL	Cairo, IL
WHHA	Willard, OH
WHHD	Murdock, FL
WICA	Traverse City, MI
WPMA	Sparta, GA
WTMV	Youngsville, PA
WX2XMA	Allentown, PA

Pending FM Call Letter Changes

New	Old	
KZPZ	KWCY	Glendale, AZ
WBMB	WDOY	Fajardo, PR

Changed FM Call Letters

New	Old	
KBVL	KTGP	Pawhuska, OK
KEDD	KRAJ	Johannesburg, CA
KHOC	KKRR	Casper, WY
KKPW	KTAA	Kerman, CA
KLLP	KRSS	Chubbuck, ID
KNEC	KBJI	Yuma, CO
KOOJ	KTBT	New Iberia, LA
KOSB	KVCS-FM	Perry, OK
KRRD	KBHY	Atkins, AR
KSFF	KHTW	Caledonia, MN
WAYG	WBYW	Grand Rapids, MI
WBNN-FM	WBCS	Dillwyn, VA
WEGE	WAXV	Westerville, OH
WHDI	WAQB	Sister Bay, WI
WHHT	WXPC	Horse Cave, KY
WKYZ	WKKB	Key Colony Beach, FL
WKZY	WDFL-FM	Cross City, FL
WOLG	WCNL	Carlinville, IL
WPTQ	WHHT	Cave City, KY
WQJQ	WBKJ	Kosciusko, MS
WRXF	WWGR-FM	Lapeer, MI
WSIS	WSGF	Springfield, GA
WSUN-FM	WLVU-FM	Holiday, FL
WVOQ	WNDR	Mexico, NY
WWDB-FM	WWDB	Philadelphia, PA
WWFH	WILP-FM	Freeland, PA
WWFX	WBEQ	La Crosse, FL

■

BY RICHARD "RD" BAKER
<CommConf@concentric.net>

Communications Confidential

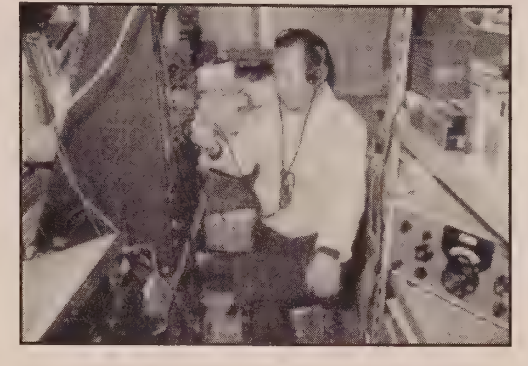
YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Saying Goodbye To Old Friends

There is more sad news this month for maritime fans. First, thanks to a tip by R.D. Carter (SC), I caught all three U.S. AT&T coastal maritime stations; KMI California, WOO New Jersey, and WOM Florida broadcasting an announcement throughout February that the stations were to be closed February 28, 1999. This will leave just WLO, Mobile Radio, in Alabama, to provide coastal station radiotelephone service on the continental United States. So by the time you read this, the stations will be gone forever, joining a long line of maritime coastal stations that have closed throughout the '90s. The age of satellites has forced a severe thinning of the competition.

Last month, I mentioned some major maritime stations changes. Joining the abandonment of the 500 kHz CW watch effective with the February 1, 1999 start of GMDSS in Europe are: OST, Oostende Radio, BEL; LGQ, Rogaland Radio, NOR; OXJ, Torshavn, DEN; OXB Blaavand Radio; OXP Skagen Radio; OXF Qaqortog Radio, GRL; OYR Aasiaat Radio, GRC; OXZ Lyngby Radio, DEN (also ceased CW operation on HF 4303.0, 8598.0, 12916.5, and 17068.4 kHz January 31, 1999); EJK, Valencia Radio, IRE; 9AR, Rijeka Radio, Croatia; all Canadian Coast Guard stations; LZW, Varna Radio, BUL; TFA Reykjavik Radio, ISL; and the Japanese Maritime Safety Agency (JMSA) is ceasing CW operations from its coastal stations on 500 kHz and also on HF from JNA, Tokyo.

Also effective February 28, 1999 in France, coast stations Le Conquet and Saint will cease their maritime safety information broadcasts. Cross Corsen Radio will now broadcast the Brest local and coastal warnings on 2677.0 kHz after a general call on 2182 kHz at 0735 and 1935 local time. This ends the Brest and Le Conquet transmissions on 1635.0 kHz. The stations at Marseille and Grasse will be decommissioned. The station at Cross la Garde will broadcast Toulon local and coastal warnings on 7696.0 and 2677.0 kHz at 0833 and 1603 local time, also after a general call on 2182 kHz.



Mr. Hiroshi Fuji is president of the Five Hundred Club in Japan, and is very active within the utility hobby.

SDJ, Stockholm Radio, Sweden, will maintain listening watch on 500 kHz until the 1st of February 2001, according to a message caught by Alan Gale (UK). "To all stations closing down today: Thank you for good cooperation during the past years, Stockholm Radio/SDJ will maintain listening watch on 500 kHz until the 1st of February 2001. AR." Alan reports that not all the stations closed down on the 31st of January. At the moment, the Italians, Spaniards, Poles, Estonians, and Swedes continue to be heard. Alan is not sure how long these will continue. He made some great logs and noted there were also a number of QSOs between stations earlier in the evening on 500.0 kHz, and along with traffic lists and navigational warnings the following callsigns were logged: CTV, C6NE7, EAC, EAF, EAO, EAS, EJM, EJK, ESA, FNBK, GXXF, IAR, ICB, IDC, IPA, IPB, IQX, LGA, LGQ/LGT, LZW, OHC, ONAR, OST, OXF, OXJ, OXZ, OYR, SAA, SAE, SDJ, SPE, SVK, TFA, SAA, VCM, VOJ, VOK, and 9AR.

Thanks to all who sent in information, I'll continue to track these stations and do an update later.

Other News

The High Frequency Active Auroral Research Program (HAARP) site in Gakona, Alaska, will be conducting another "Listening Test" in March 1999. No exact times or frequencies are set as of press time. Those on the Internet can check the latest info at <http://www.haarp.alaska.edu/haarp/hh2.html>.

Digital News

Joe Richard (FL) reports an **unidentified** Serbian diplomatic station on **16317.5** in 75/850 baudot RTTY has been maintaining a regular schedule every weekday morning at about 1445 UTC. The station QSLs messages sent by MFA Belgrade earlier on 16302.0 kHz. He first makes contact in CW and always sends his callsign "YTK5." He then shifts to RTTY to QSL the traffic. The station gives Joe a good signal mid-Florida but has never sent any other traffic, always "QRU."

Reader Mail

We have several new contributors to welcome this month. Noel Jones, Auckland, New Zealand, has been reading *Pop'Comm* since January of 1998, although he has been in the radio hobby many years. Noel checks in with his first logs this month. His shack consists of a JRC NRD-535D with Timewave DSP 599zx, a Kenwood R5000, AOR AR3000A, AR8000, with a T2FD, inverted V, 30-meter longwire, Diamond D130 25-1300MHz discone, LP1300, and SatCom antenna.

Jean-Marie Langlade in France uses a Hoka Code 3 and a Thompson RS-560 to make his digital intercepts.

Elmer David Escoto Romero checks in from Honduras and is fairly new to utility DXing having concentrated more on broadcasters and tropical band listening. He is using a Panasonic RF-4900B receiver and a 12-meter wire fed by coax to the radio.

Mr. PLOO and Mr. X check in from Canada and the southern U.S. respectively. Welcome to all.

Joe Richard (FL) has noted a Spanish net on 13897.2 that may be connected to the U.S. Army School of the Americas or SITFA (Information and Telecommunications System of the American Air Forces). Roosevelt Roads, PR; Miami;

Mr. H. Yamamoto is a vice-president of the Five Hundred Club in Japan and editor of their club magazine.

San Antonio, TX; Ronald Reagan Airport (Washington) have been names Joe could understand. The net is heard daily, about 1300 to 2100 UTC.

Alan Gale (UK) notes that Palestinian amateur radio operators have been issued a new E4 prefix for the first time by the ITU. Utility station callsigns may be worth watching also.

Allen Renner (PA) corrects his beacon totals given in the March column. Allen has logged 665 beacons; sent out 376 QSL requests, and has received 270 replies. This gives him a return rate of 71.8 percent. Most of the logs were made with a DX-440, a homespun loop antenna, and a pre-amp. A very fine return rate indeed.

John Whitehead (PQ, Canada) is now using a Lowe 150, an outdoor whip, and HF Facsimile 6.0 into an old 386 to some WEFAX work now.

Takashi Yamaguchi, MD (Japan) sent some great information on the Five Hundred Club, which is an active utility station club in Japan. The club president is Mr. Hiroshi Fuji, a well-known utility station listener, who is now more than 70 years old and remains active in the hobby. Mr. H. Yamamoto is a vice president of the club who is in charge of publishing an excellent club magazine about four times a year. Takashi was kind enough to send some samples. The magazine, which is primarily in Japanese, has logs which are mostly readable to non-Japanese. The club was formed in 1994 to focus on maritime stations on 500.0 kHz. Now, with the start of GMDSS limiting this part of the hobby as we have seen, the club is expanding to cover the entire utility station umbrella. One of the clubs members, Mr. T. Yamagata, recently was able to log 5BA, Cyprus Radio and 9KK, Kuwait Radio in CW on 500 kHz. He also received a photo of the operating room at HZG, Damman Radio, Saudi Arabia. You can visit the club Website at <http://member.nifty.ne.jp/kokubunji/five/>, FAX them at 0259-55-2112 or send E-mail to <cxm00013@niftyserve.or.jp>. We certainly wish them well. This is only the second utility station club that I'm aware of. Coming from a club background myself, I can appreciate the work that goes into it. If your club covers utility stations, feel free to drop us a line with editor, column, or club news.

A reminder that my new address is P.O. Box 4450, Youngstown, Ohio 44515 USA. Also a request that those sending in typewritten or E-mail logs *try* using the format used in the column. This lets me do a cut-and-paste or a direct text file scan to save a bunch of editing time. I wasn't able to use some logs recently as I ran out of time at the column deadline while editing them. Now, on with the show . . .

UTE Loggings SSB/CW/DIGITAL

60: MSF, NPL Teddington (tx site Rugby), G at 1450 in CW Time signals. (AB)
70: Decca stations in N+W Europe, at 1505 in CW Nav signals (freqs. 70-72 kHz). (AB)
75: HGB, Observatoire Neuchatel, SUI at 1452 in CW time signals. (AB)
100: Loran-C stations at 1453 in CW Nav signals. (AB)
132: Datatrak stations in Holland at 1508 w/DATA Vehicle tracking (freqs 132-133 kHz). (AB)
147.3: DDH47, Hamburg meteo, D at 1511 in RTTY 50bd Plain text wx msgs. (AB)
220: BX, Blanc Sablon, PQ at 0245. (RH)
245: ANR, Andrews, TX at 0245. (BF)
260: YAT, NDB Attawapiskat, ONT monitored at 0545.(AR)
280: MPG, Progreso, Mexico at 0320. (RH)
287: ME, Memphis, TN at 0458. (RH)
287.5: HH, DGPS station Hoek van Holland, HOL at 1332 in MSK 300bd DGPS data. (AB)
296: GR, NDB Goeree, HOL at 1308.(AB) ARF, Albertville, AL at 0514. (RH)
300: BHN, NDB Barahona, Dom Rep monitored at 0559. (AR)
317: VS, NDB Valenciennes, F at 1312. (AB)
326: MA, Midland, TX at 0319. (BF)
339: A, NDB Havana, Cuba at 0545. (AR)
344: GNC, Seminole, TX at 0317. (BF)
350: DF, NDB Deer Lake, NFLD, CAN at 0506. (AR) LE, Raleigh NC at 0339. (MS) IUI, Blytheville, AR at 0903. (RH)
351: YKQ, Fort Rupert, PQ, CAN monitored at 0344. (MS)
352.5: DD, NDB Oostende, BEL at 1249. (AB)
353: QG, Widsor, ON, CAN at 0346. (MS)
356: PB, West Palm Beach, FL at 0347. (MS)
360: BFI, NDB Beef Island, British VI monitored at 0412.(AR) PN, Port Menier, PQ, CAN at 0351. (MS)
363: RNB, Millville, NJ at 0356. (MS)
365: LJ, NDB Koln, D at 1358. (AB)
369: ZDX, NDB St. Johns, Antigua monitored at 0549. (AR)
373: JF, Conda, NY at 0402. (MS)
375: GGL, NDB Titusville, FL at 0519. (AR)

Abbreviations Used For Intercepts

AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identification/led/location
LSB	Lower Sideband mode
OM	Male operator
PP	Portuguese
SS	Spanish
tfc	Traffic
USB	Upper Sideband mode
w/	With
wx	Weather report/forecast
YL	Female operator
4F	4-figure coded groups (i.e. 5739)
5F	5-figure coded groups
5L	5-letter coded groups (i.e. IGRXJ)

376: ZIN, Great Inagua, Bahamas monitored at 0452. (MS)
382: LQ, Boston, MA at 0503. UPA, Punta Alegre, Cuba at 0505. (MS) MW, Marion, IL at 0130. (RH)
385: TKL, NDB Tikal, Guatemala at 0532, new. (AR)
386: SYF, St. Francis, KS at 0315. (BF)
387: PV, NDB Providenciales, Turks and Caicos Isl, at 0453. (AR)
391: DDP, San Juan PR at 0519. (MS)
393: DEN, NDB Dender, BEL at 1242. (AB)
394: ENZ, Nogales, AZ at 0313. (BF) YB, North Bay, CAN at 0532. (MS)
395: ULS, Ulysses, KS at 0300. (BF)
400: SLO, Salem, IL at 0124. (RH)
402: SJE-E, NDB San Jose del Guaviare, Colombia at 0601. (AR) C, Cameguay, Cuba at 0536. (MS)
404: MRV, NDB Merveille, F at 1245. (AB)
407: PRZ, Portales, NM at 0302. (BF) RZZ, Roanoke Rapids, NC at 0543. (MS)
410: JU, West Jefferson, NC at 0555. (MS)
414: ATS, Artesia, NM at 0306. (BF)
417: HQT, Coats, NC at 0606. (MS)
418: MK, NDB Calais, F at 1239. (AB)
420: CEK, NDB Crete, NE at 0458. (AR) GAS, Gallipolis, OH at 0611. (MS)
421: EF, NDB McKinney, TX at 0448. (AR)
434: THN, NDB Thorn, HOL at 1425. (AB)
448: SDJ, Stockholm Radio, S at 2101 in CW w/nav wng and farewell to other closedown stations, plus SDJ future plans. (AG)
449: OXZ, Lyngby Radio at 2058 w/CW nav wngs in EE. (HOOD)
476: CLA, Havana, Cuba in CW at 0426. (AR)
500: OST/OSU Oostende Radio, BEL at 2250 w/CW closedown msg in EE, then QSOs w/EJM, OXZ, EJK, 9AR, OHC, EAS, ONAR, FNBK. LZW, Varna Radio, BUL at 2313 w/CW closedown msg. C6NE7, OFV Westminster at 2329 w/CW tnx and 73 to all coast stations in EE. LGQ/LGT Rogaland Radio, NOR at 2353 w/CW closedown msg in EE. OXJ, Torshavn Radio, FRO at 0009 w/CW closedown msg, then QSOs w/FNBK, EJK, OXF, SPE, and EAC. OXZ, Lyngby Radio, DNK at 0025 w/CW closedown msg in EE, then QSOs w/LGQ, EJM, EJK. EJK, Valentia Radio, IRL at 0035 w/CW closedown msg,

then QSOs w/EJM, EAF, OXJ, and OXF. OXF, Qaqortoq Radio, GRL at 0045 w/CW closedown message, then QSOs w/EJK and EAF. TFA, Reykjavik Radio, ISL at 0057 w/CW closedown msg in EE. OYR, Aasiaat Radio, GRL at 0059 w/CW closedown msg in EE. SVK, Kerkyra Radio, GRC at 0018 w/CW "Gale wng QSW 525." ESA, Tallin Radio, EST at 0448 w/CW: "cq de esa." SAA, Karlskrona Radio, S at 2129 w/CW "QSW 435r5." (AG)

518: GCT, NDB Guthrie Center, IA monitored at 0522. (AR)

521: GM, NDB Greenville, SC at 0522. (AR)

702: North Korean/YL nbrs at 1500 in AM// 621//657//720// 855//3250//6400 kHz. These are famous R. Pyongyang's frequencies. (TY)

1610: TIS WPAS758, New Jersey Turnpike Authority, Mt. Laurel Twp, NJ monitored at 1957 in AM. (AR)

1630: TIS WPCD802, Philadelphia IAP at 1954 in AM (ex-1610 kHz). (AR)

1677: OHG, Helsinki Radio at 1942 in USB w/nav wngs and ice rpts. (HOOD)

2129: C6PR7, M/V Truro at 2103 in USB wkg Farsund Radio for pp to UK (1505 dwt gen cargo vsl). (HOOD)

2598: VOK, Labrador CG Radio, CAN at 0143 w/MIB in USB. (AR)

2670: *M/V Northern Access* wkg NMN (CAMSLANT, Chesapeake) at 0430 re the vsl had an explosion and fire in their engine room and was dead in the water. They had not declared a Mayday even though they were adrift. They had also deployed a lifeboat with 26 POB while eight more souls remained aboard, unclear if the fire was out or not.(AB2) NMG, USCG Group New Orleans at 1238 w/MIB. NOQ, USCG Group Mobile at 1220 w/MIB.(DW) All in USB.

2758: Oostende Radio, Belgium at 0640 in USB w/nav warnings. (PP)

2899: Gander at 0532 in USB w/posn reports wkg Delta 138, Continental 9971 and Continental 28 (DG)

3137: Unid in USB w/ALE signals monitored at 0541. (JM)

3195: "R" Russian navy, Ustinov, CW HF channel marker at 2230. (TY)

3345: ZKG, MRS Central, North Island, NZ at 0733 in USB w/wx and messages. (MRS is Mountain Radio Service). (NJ)

4040: NNN0ASC, GA at 2320 in FEC w/NAVMARCORMARS net, "Proudly Serving Those Who Serve." (FH)

4050: Static callsign DOMESTIC wkg GOOSE 73, reported posn as Delorean at 0331 and Crestview at 2241 local. (JM)

4146: At 0703, ZLM, Taupo Radio in USB w/wx for shipping. (NJ)

4372: K9Z, USS Ramage (DDG-61) at 0347 in USB wkg 6NX, Unid, possible USS Kearsarge (LHD-3). Helo enrt to K9Z to pick up poss stroke victim. Eventual destination is Camp Lejeune. (DW)

4461: Israeli intel, ISR at 2200 in AM w/FTJ and 5L. (AB)

4516: USN/USMC MARS in PACTOR at 0100. (JM)

4606: CHH700, CHH700C, CHH705, CHH705A, CHH709A, and CHH763 in USB at 0256. Canadian disaster exercise, poss Channel F-5. (JM)

4616: ZLKW5, Dept of Conservation station, New Zealand at 1900 in USB re preparing a hut for a party of pig hunters. (IJ)

4625: Buzzer, RUS at 0020 buzzing the night away. (AB)

4675: Iceland Radio at 0910 in USB wkg Aeroflot 322 w/clearance to FL 370.(HOOD)

4953: RFH37, Russian Military in CW at 1610 wkg RFH48, RFH65, UEE82, and others on the same freq. I had thought that military callsigns were all Rxx but I was wrong; no mistake about that UEE82. (JD)

4986: SDJ, Stockholm Radio in USB wkg a/c at various times. (JSDP)

5080: English Man (E06), RUS monitored at 1600 in AM w/105 (R4) 846 846 109 109 5FG ends 00000. (AB)

5277: TIGER 04 (DEA a/c) at 0050 in USB, in extended counter-narcotics op's w/TIGER 83 (DEA helicopter), SHARK 27 (USCGC *Vigorous WMEC-627*), and HERKY 13 (USCG HC-130 1713) in the area of Jamaica/ Dominican Republic. (RP)

5301: CHH700, CHH709, and others in USB w/exercise msgs, one msg indicated "blankets and generators are headed to New Market." Apparent Canadian disaster exercise here all day, Sitrep updates requested by CHH700, who is net control. CHH763A, CHH700B, and CHH705 are also in the net, this freq F-3. (JM)

5342: FDY, French AF, Orleans F in CW at 0314. (JR)

5376: German Lady [G07], RUS at 2110 in AM w/ "742 742 742 1 achtung 973 60 973 60 5FG 000 000 ende." (AB)

5400: YOG37, Bucharest Meteo heard in 50/ 400 tfc. (JD)

5473: ZLDC and ZLDC28 Unid commercial stns, South Island, New Zealand at 0600 in USB, two OMs w/chit-chat. (IJ)

5505: EIP, Shannon Volmet at 0604 in USB w/Wx report for London Heathrow, Shannon, and others unid. (DG)

5517: Air Djibouti-900 at 2240 wkg Sana`a. AWH-301, Air Inter Niger, at 2238 clg Khartoum. VPB-5087, Veteran Air Ukraine, at 2041 wkg Khartoum. TAS-012, Lotus Air, Egypt at 2041 clg Cairo. VEA-3001, unid at 2019 wkg Tripoli, FL250. (IB) Cairo at 0245 in USB wkg Speedbird 2069 w/hand-off to Kharthum (same freq). (JSDP) All in USB.

5532: At 0608, unid in USB w/wx report in unid language. (DG) *(Could have been one of several LDOC's. — Ed)*

5541: Stockholm Radio at 0920 in USB wkg Northwest 35 for Selcal check. (HOOD)

5598: At 0615, Tower 31 wkg New York reporting BANCS monitored at 0603 FL 340, fuel 87.4. (DG)

5658: SDM-9301, Russia State Transport Co, at 2255 wkg Bombay. BLX-816, Britannia Sweden, at 2257 wkg Bombay w/Selcal AQ-KR, FL 390. IRH-4145, Atlas Air, Iran at 1809 wkg Karachi. All in USB. (IB)

5673: Beijing Volmet, China, w/flying wx information in accented EE and distorted USB //3458 kHz. (TY)

5690: At 0449, RESCUE 2135 in USB wkg Miami Ops in pp, completed line search for 406 EPIRB, are RTB for fuel. Negative results w/comms w/3 vessels on ch. 16 VHF and ch. 31 HF. Req further tasking, was adv on helo launched on flare chase off of Long Key. (RM)

5692: RESCUE 1503 at 0440 in USB wkg CAMSLANT for pp to LANT AREA for status report on the scene of collision of M/V Saudi Riyadh and USS Arthur W. Radford (DD-968). (RM)

5696: USCGC Bramble (WLB-392) at 0209 wkg District 9 Comms Ctr, Cleveland, OH. NMD47, USCG Group Buffalo, NY at 0229 clg USCGC Sundew. NMP9, USCG Group Milwaukee, WI at 0218 clg Dist. 9 Comm Center. USCGC Neah Bay (WTGB-105) at 0230 wkg CAMSLANT Chesapeake, VA. NOJ, USCG CommSta Kodiak, Alaska at 0237 wkg CG 6512. (AR) X-RAY 6 LIMA coord w/Miami Ops at 0250 re cutter HF freq 8337.6. (MF) At 2040, RESCUE 6026 wkg CAMSLANT re CAMSLANT call parent command and req hot refueling at Cherry Point MCAS. Would RTB Elizabeth City in five hrs.(RM) YANKEE 2 SIERRA at 1241 wkg CAMSLANT re convey course and speed of vsl to cutter and req to remain on scene as long as possible and advise course and speed on departure (SD) All in USB.

5710: O/M SS at 0242 in LSB sending msg composed of 3L. Uses NATO phonetics. (RP)

5715: North Korean/YL nbrs hrd in powerful AM at 1400. Unable to find parallel freq. (TY)

5773: 39 Army net, New Zealand at 1955 in USB w/logistical msgs. (IJ)

5800: GUIDEPOST checking in w/NIGHTWATCH at 2346 in USB. (MF)

5860: Unid monitored at 1345 in USB, ALE net of some sort, Kxxnnnn calls, weak, didn't copy any IDs. (AWH)

5879.5: Spook P7X at 1400 in CW/FSK usual format.(AWH)

5887.5: IMB32, Rome Meteo, I at 0051 in RTTY 50/850 tfc.(JD)

5915: Unid, Carswell? 75/85O wx msgs from KAWN Weather Computer. (FH) *(NAR, NAS Key West, Florida, via Saddlebunch Key transmitter site — Ed)*

6215: North Korean/YL nbrs hrd in AM at 1300. Rare transmission on this freq, ended at 1410 w/"Thank you" in Korean. This is a worldwide maritime distress and safety freq, unable to find parallel freq. (TY)

6277.5: Unid Ship at 0815 in RTTY 3rd shift cyrillic 50/180, RTMS Sirius mentioned w/other ship msgs. (PLOO)

6286.5: UCGP, TKH Volgo-Balt 106 at 0736 in CW clg RJFY (UCW4). (HOOD)

6357: SAA, Karlskrona Radio at 1050 w/CW ID and tfc list.(HOOD)

6464: Fishing Boats, New Zealand at 2055 in USB re poor catches. (IJ) CC/YL Rptng "All center stns, this is Beijing calling" for app 6 mins, ended w/"Thank you" in Mandarin and powerful AM at 1706. On another day, same ann hrd on 8375 kHz. First time I've ever encountered CC nbrs on this freq. Poss CC Intelligence. (TY)

6465.5: ROD9, Murmansk Radio monitored at 0800 w/CW ID and tfc list w/freqs as 4295.5/6465.5. (HOOD)

6470: SXA24, Greek Navy Piraeus, Greece at 0610 in CW w/VVV DE SXA24. (IJ)

6575: HNC-S, Mossad, Israel, rptng "Hotel November Charlie Sierra" in weak but just readable USB at 1405. On another day HNCI, Mossad, hrd at 1435. This is a new Mossad freq. "HNC" is reportedly a deep cover/mission specific Mossad callsign. Usually R. Pyogyang is very busy on this freq. (TY)

6637.5: Unid spook 2251 to 2302 in CW w/"732 732 732" to 2256 "BT 175 25 BT" into 5FGs 1x, cut 0 = T, 2259 "BT" and repeated entire sequence, 2302 "BT," three long dashes, ten gone. 20 wpm CW. (AWH)

6640: New York ARINC at 0224 in USB wkg ASCOT 6607. (AR)

6676: Sydney Volmet at 1232 in USB w/aviation wx. (DW)

6717: PACOM 01 wkg Andrews VIP for msg relay at 0422 in USB, also found on: 6830.0, 8026.0, and 11053.0 at various times.(JJ)

6761: GASSR 36 req GASSR 37 relay msg at 0144 in USB, GASSR 37 coord AR312 op-plan w/GASSR 36. (MF)

6765.5: LCAC 33 clg WORKHORSE at 2223 in USB, LCAC 67 rep feet dry to WORKHORSE at 2241. (MF) (*The LCAC are Navy Landing Craft Air Cushion or hovercraft. This was a USMC exercise. — Ed*)

6785.5: Unid stn Rptng "V ABYZ DE 6PXJ" in powerful CW at 1216. Suddenly transmission was off at 1220. However parallel 3440 kHz was normal operation. Not hrd on usual 5600 kHz. Poss from Mainland China. (TY)

6800: CF 0620 (Y/L EE) at 2109 in USB w/CF 0619 and several others in what appeared to be extended CanForce training exercise. (RP)

6803.1: Strong unid "standing by" at 0140 in USB. Bell Telephone frequency. (JM)

6826: SDJ, Stockholm Rdo in USB wkg a/c at various times. (JSDP)

6885: CC/YL nbrs hrd in powerful AM at 1730. Ann is the same as 10750kHz. First time I've ever encountered CC nbrs on this freq. (TY)

6905: VKG, Broken Hill, AUS at 2351 in USB, N.S.W. Police net w/BROKEN HILL 202 (hwy patrol car) requesting time the wide load left Broken Hill, and req VKG to contact Dubbo to ascertain the selcal code for the Orana highway patrol car. At 2354, VKG selcals 202 and adv that the Orana car might be 5216, suggests they also try 5287 for highway car. (SD)

6910: U.S. Tuna fishing boats at 0545 in USB, two OMs w/chat. Mentioned about the warm ocean temperatures in the Pacific. (IJ)

6932: 5L groups in CW at 1333.(JM)

6945: VLH, School of Distance Education, Charleville, Qld, AUS at 0317 in USB w/OM completing English lesson and setting homework for tomorrow. (SD

6970: Tactical net w/NEPTUNE wkg OLMAR at 1615 in USB, req meet him on the training bird. (AWH)

7206: Cuban CW at 1305, 1 station audible wkg crossband w/5MG, tfc including usual N-tilde, hand keyed, no ID noted. (AWH)

7319: SUU, Cairo Meteo heard in RTTY 100/850 tfc. (JD)

7330: VL2SES, Wilds Meadow monitored at 2215 in USB, N.S.W., AUS, State Emergency Service net, w/daily net check clg Lord Howe who was 25 degrees w/wind SE at 8kt, Glendale overcast 29 degrees no rain, Western Region Cobar overcast, New England wind E no rain and VZG66, on completion of reports, stns QSY to 4567, 3729, and 3743 for continued net cks. (SD)

7558: RJF94, Russian Navy in CW at 1610 wkg RCB, RJC48, RJC38, and RCH84 some of which were heard replying on the same freq.(JD)

7580.2: Unid heard at 0800 in CW, Cut numbers, 5L. (PLOO)

7625.5: Jeddah Meteo in RTTY 100/850 at 0248 in wx tfc. (JR)

7632: USAF, Andrews and McClellan AFB's at 0525 in USB w/radio checks. (IJ)

7645: MKK, London in RTTY 75/425 testing at 0250. (JR)

7671.5: FDG, Fr AF Bordeaux in 50/400 RTTY at 1715 "Test de . . . " and "le brick." (JD) FTD, unid at 2200 in 50 baud RTTY w/le brick, grand wharf, test count. (JML)

7734: FOXTROT NOVEMBER YANKEE at 2306 in USB, possible Papua New Guinea Defence Forces net w/posn report and ETA of 1900. (SD)

7836: Y/L EE at 1431 in USB, numbers stn. Again at 1608 repeating " 360" then 1-10 tuning count. (RP)

7850: FDI8, French AF, Nice, F at 0220 in RTTY 50/425 w/RY's and tests. (JR)

7859: FDI8, Fr AF Nice in 50/400 RTTY at 1810 "Test de . . . " and "le brick." (JD)

7871: VL8IPS, Australia, Rptng "VL8IPS" in CW and burst at 1004. This is a transmission for the HF propagation prediction. (TY)

7890: 5LG in CW at 1336. (JM)

7995: At 0337, McMurdo Station wkg Siple Station, Antarctica in USB. (AWH)

8025: BLAZER 5 wkg BLAZER 6 at 2130 in USB re: we have another reported loss of FLIR (forward looking infrared) on E-4-H. BLAZER 4 will take a look at it, and 3 enemy tanks at grid: 654212. (JJ)

8026: SAM 300 wkg Andrews VIP at 0842 in USB re: clearances into: Brunei, Malaysia, Indonesia, and the Philippines. (JJ)

8122: HMAS Benalla, Survey Craft A04 at 1236 in USB wkg CANBERRA CONTROL w/tfc. (DW)

8167: SDJ, Stockholm Rdo in USB wkg a/c at various times. (JSDP)

8170: English Man [E06], RUS at 1333 in AM, in progress. Ends w/00000 (AB)

8176: VIS, Sydney Radio, AUS at 0720 in USB wkg Island Trader VNBZ on 0700 sked. (SD)

8188: Swedish Rhapsody [E23] at 1202 in USB in progress. (AB)

8279: P3DM7, TKH Sormovskiy 121 at 0848 in USB w/pp to Germany and Mariupol via OHG (is ex UDPW). (HOOD)

8291: At 0218, Taupo Radio wkg vsl Westport, ZMJW, Taupo advises to change to wkg freq 8297 maritime radio ch 833. (NJ)

Photo of the operating room at HZG, Damman Radio, Saudi Arabia, received by Mr. T. Yamagata, of the Five Hundred Club.

8297: At 0221, Taupo Radio wkg vsl Milford Monarch w/radio check. (NJ)

8316: RNZN Auckland and HMNZS Tarapunga, New Zealand at 0555 w/ posn reports. (IJ) At 0654, Navy Auckland wkg Tarapunga w/radio check and seven priority signals (NJ) Both in USB.

8337.6: Unid USCG at 0303 in secure ANDVT comms, after QSY from 5696. (MF)

8360: ICZD, M/V Mare Baltico at 1522 in CW w/"Amver" type msg to IAR (64310 dwt bulker). (HOOD)

8401.5: UBCI, RTMKS Kurskaya Kosa at 0745 in RTTY 50/170 admin msgs from Km Dementev to UIW. (HOOD)

8419: At 0454, WLO, Mobile Radio, USA w/CW Marker. (EDER)

8421.5: 9AH, Rijecka in FEC w/NX in Croatian ends at 2221. (FH)

8424: WCC, Chatham Radio at 0445 w/sitor free signal, CW ID. (EDER)

8430: NMO, USCG Honolulu, Hwa at 0442 w/sitor free signal, CW ID. (EDER)

8448: At 0440, A9M, Hamala Radio, BAH in CW w/CQ DE A9M. (EDER)

8453: FUG, La Ragine in RTTY 75/850 RYs at 2250. (Usually find HWN here). (FH)

8473.5: A7D, Doha Radio, QAT at 0436 w/CW marker. (EDER)

8497: HLF, Seoul Radio at 1716 in ARQ idle (Global station). (HOOD)

8515: 5AT, Tripoli Radio, LBY at 0432 w/VVV VVV VVV CQ CQ CQ de 5AT 5AT 5AT. (EDER)

8589: HPP, Intelmar Radio, Panama at 0332 in CW w/CQ tape. (DW)

8614: B5S at 1452 in USB, in readability checks w/B5S-01 and B5S-02. Possible USN net. (RP) (*The 01 and 02 suffix represent specific people within the unit, designated by B5S. Probably USA or USMC — Ed*)

8650: SPE42, Szczecin Radio, Poland at 0605 in CW w/DE SPE42. (IJ)

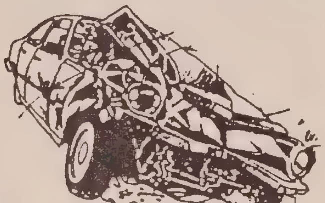
8670: IAR, Rome Radio at 0407 in w/VVV VVV VVV de IAR IAR IAR. (EDER)

8722: Boufarik Radio w/wx in USB monitored at 1500. (PP)

8728: Monaco Radio at 1540 in USB with YKMY. (PP)

8738: At 0400, Cyprus Radio in USB w/"Edo Kypros Radio, paraxis Radiotelephoniki Peretsia" IDs and also in EE "This is Cyprus Radio, Radiotelephone Maritime Service." (EDER)

8740: Lyngby Radio at 0807 onwards in USB w/UIUB, UDCM and V2WO at 0725 they play recording for ID on 8740 and 4408 kHz (PP)
8746: Traffic list from Rijeka Radio, Croatia at 0900 in USB, also Madrid Radio for crew phone patches. (PP)
8761: UDN, Novorossiysk Radio heard at 1735 in USB, YL w/"Govorit Novorossiysk Radio." (HOOD)
8806: 3AC, Monaco Radio monitored at 2020 in USB OM/FF loop ID w/music box, same interval signal as used by TWR Monte Carlo, into QSO. (AWH)
8846: CG 1504 wkg New York at 1448 in USB w/posn 3838N/5736W. New York adv 1504 to go to 11342 for a SIGMET, 1504 adv he is on SAR, has only one HF transceiver which he is keeping on 8983 radio guard. (RP)
8861: ?-504 at 0408 wkg Dakar w/posn and ETA. (DW) ZS-JIZ, SAFAIR, at 2013 wkg Dakar, FL 230 from Dakar to Marakesh, possible involved in Paris-Dakar Rally. JetAir-212 at 1538 wkg Bombay. FL 390, Selcal DJ-CP from Calcutta to Bombay. (IB) Both in USB.
8879: Seychelles Air Radio at 1818 in USB taking psn rpt from Air Afrique 58. (HOOD)
8891: Iceland Air Radio monitored at 1650 in USB wkg planes north of 61 degrees north sometimes transfer a/c leaving their zone to Artic Radio. (PP)
8894: KVY-121, C.A.I (Italy) at 2002 wkg Algiers, FL 370, possible participant in Paris-Dakar Rally, was involved 2 years ago also. AWH-301, Air Inter Niger at 2020 wkg Niamey, FL 370. All in USB. (IB)
8903: SAZ-465 Swiss Air Ambulance at 2327 wkg Luanda. SOI-408, Southern Aviation, Zambia at 1727 wkg Kano, from Lusaka to Lagos, FL 350. Both in USB. (IB)
8971: TRIDENT 760 clg X0P, nothing heard at 2000 in ISB, 1BW clg TRIDENT 760, nothing heard at 2005. (MF)
8975: LRH (Y/L EE w/accent) at 0452 in USB w/LMG 191 confirming operations normal report and ETA of 0503Z (RP)
8998: McMurdo Station Antarctica "Mac Center" at 0256 in USB wkg PIRATE 03, medevac mission to South Pole, passing wx info. Hrd again at 0301. (AWH)
9007: BLACKHAWK 214 at 0642 wkg TESTER OPS in USB not fuel in that location at this stage however there will be a ground party w/comms on FOX MIKE (FM) 60.40 and fuel will be unavailable until a further decision is made re cyclone over, via pp AIRFORCE SYDNEY. TESTER OPS is Army going by language used, 12 Blackhawks in this area. (NJ)
9016: GUIDEPOST clg NIGHTWATCH, nothing heard at 2344 in USB (MF)
9023: SAM 201, outbound Rochester, MN for Andrews, wkg Andrews VIP at 0005 in USB re: a 0230z ETA. Also found on 6683. (JJ)
9030: Unid RTTY/TE-40 system 75/850 encrypted data stream, Prob Saddlebunch Key, 24-hours-a-day. (X)
9044: Unid Russian CW at 1200 w/"VVV LR43 TEKHNICHESKAYA PROWERKA," looks as though it means "technical test" or words to that effect. (JD)
9061: Unid in LSB w/Mil-Std-188-141A ALE, prob USAF Scope Command, heard 2130–2145. (X)
9072: Spanish Man (V7) at 0601 in AM, call-up 047 null msg 000. (SD)
9080: The English Man and family nbrs, Russian Intel, hrd in powerful AM at 1400. Weird OM Rptng "167 167 167 00000 in accented EE. This is ENIGMA E7, confirmed using the "Conet Project CD." First time I've ever encountered E7. (TY)
9090: Unid at 2020 in AM, YL/EE 3/2 5F, ends at 2028. (PLOO)
9115: Unid at 0800 in AM, 5FG SS/YL, Atencion 1st msg then 2nd: 441/05 05 52 . . . (52 gps) . . . ending w/"43432 13245 final final" at 0809, pulsating electric buzz in the background throughout; carrier on at 0750. (PLOO) Spanish Lady (V2) at 0601 in AM w/ headers 666 01 and 584 02. (SD)
9152: DGI Havana at 1200 to 1245 in CW, Broadcast flag, unk to Central America. Sometimes AM #s schedule here on 9153.0.(X)
9231: Maghnia Aero, ALG at 0920 clg Bechar and Wkg In Salah. Bou Sada Aero, ALG at 0801 clg Adrar. Bou Saada Aero, ALG at 1558 wkg In Salah. All in USB. (IB)
10026.7: Unid in USB at 1704 w/Tango Victor Sierra ID. (JML)
10033: Miami LDOC at 1140 in USB w/unid airline flt #507.(X)
10072: Faint British Airways LDOC at 1700 in USB, wkg unid.(PP)
10102.5: 3XA, Conakry, Guinea in RTTY



When seconds count, *REACT*® needs you...

...to summon help for an injured motorists, an elderly woman trapped in a fire, a trucker stranded in a blizzard, a drowning child!

As a REACT volunteer CB radio monitor you may be the only communications life-line for someone in serious trouble. You relay messages from those desperate for help to police or other emergency services.

Your REACT Team will also use CB and other radio services to provide safety communications for events like parades, marathons and even balloon races. The fellowship with other REACT members at Team meetings and annual conventions is an added bonus.

Volunteer. Join Today!

Add a New, Exciting Challenge to Your Life. Help Save Lives and Property!

REACT® **International, Inc.**
Tel (301) 316-2900
FAX (301) 316-2903
5210 Auth Road, Suite 403, Suitland, MD 20746

REACT

CIRCLE 72 ON READER SERVICE CARD

50/850 at 0049 w/wx tfc. (JR)

10125: CIO2, Mossad, Israel, hrd in USB monitored at 1345. This is a WARC amateur band. Haven't hrd this freq for a long time. Welcome back! (TY)

10165: SDJ, Stockholm Rdo in USB wkg a/c at various times.(JSDP)

10206: SDJ, Stockholm Rdo in USB wkg a/c at various times.(JSDP)

10346: DGI Havana 1100-1145 in CW, broadcast flag "C" to North America, new Saturday schedule switch from AM #s transmission. (X)

10472: Spanish Man (V7) at 0609 in AM w/call-up 047 null msg 000. (SD)

10493: WGY912, FEMA Hqs, at 1856 in USB clg SHA950. (RP) (*WGY912 and 913 are FEMA Emergency Assistance Center, Mt. Weather, VA — Ed*)

10780: KING 01 wkg Cape Radio at 1547 w/pp to BRAVEHEART OPS (Raymond 17: Moody 347W) re is at Pineapple and have accomplished Salmon, at 1556 makes pp to same re has SHARK and is still at Pineapple continuing the extraction. At 1623, w/pp re is at St Bernard. At 1640, adv the poodle is Bravo; GREYHOUND successful. Confirms that GREYHOUND is an HH-60. Is asked to confirm is Cedar Birch, adv affirm on Birch; negative Cedar. KING 01 req authenticate, and is also Bango w/JOLLY 01.(ALS) *(Possibly a combat SAR excercise. Certainly related to 15016 log of KING 01 — Ed)*

10790: SDJ, Stockholm Rdo in USB wkg a/c at various times.(JSDP)

10805: SDJ, Stockholm Rdo in USB wkg a/c at various times.(JSDP)

10856.9: GXQ: British Military, G at 1327 in RTTY VFT 50/170 foxes and RY's. (EW)

11034.7: Egyptian Embassy Cairo in ARQ w/new AA to unid Embassy at 1955. (FH)

11153: At 1525, BLUE 93 (KC-135) in USB wkg SPAR 06 (EC-135) re 93 leaving UK for US and SPAR 06 leaving Philadelphia. BLUE 93 wants Spar 06 to make call for them to Shark ops about return. (DS2)

11178: FALCON 01 (Dutch Navy a/c) at 2144 in USB trying to contact PJK (Dutch Navy, Curacao), contacts PJX (unid) to report that he is off task and returning to Roosevelt Roads, PR, asks PJX to relay information to PJK. (RP)

11181: MARVELOUS 01 (once IDed as HARDROCK 01, but then quickly corrected himself) at 2055 in USB wkg McClellan for moral pp, then thanked McClellan for the pp support during their field exercise. (JJ)

11190: Unid SS language military monitored at 1303 in USB "773" clg MARINO, heard no reply. (AWH)

11217: German Navy 4742 (Atlantique, MFG3) monitored at 2033 in USB, clg DHM91 (Muenster, HQ GAF Transport Cmd) no joy. (RP)

11226: SAM 375 at 2030 in USB, outbound Haiti for Ft. Myers FL, ETA 2330z (w/Congressmen: Charles Rangel, Benjamin Gilman, Porter Goss, and John Conyers) wkg Andrews VIP re: 0415z wx at Andrews. Also found on 9023. (JJ)

11232: At 1749, GONZO 06B wkg Trenton Military, sends Immediate exercise traffic to Trenton for relay to 06B Wing Op's at Winnipeg. 06B was enrt from Randolph AFB, TX to Lincoln, NE. Also asked for wx at Winnipeg. (DS2) SWORDFISH 11 (CP-140, Greenwood) at 1256 w/Trenton Military in pp w/CFB Greenwood. (RP) Both in USB.

11270: Russian Man (S25), RUS at 0820 in AM w/615 615 615 64446 66046 00000. (AB)

11271: Trenton Military at 1510 in USB, w/DRAGNET TANGO (E-3B, Tinker AFB) in pp w/BEST DEAL (unid). DRAGNET TANGO passes formatted departure msg. (RP)

11286.7: "Boustan Washington" in ARQ w/new AA and 5L msgs to "Khargia Cairo" at 1930. (FH) *(Boustan means "embassy," while Khargia means "foreign" or "external," so "MFA Cairo" — Ed)*

11288: Rockwell Flight Test and Gulfstream 107 Alpha in USB at 1534. (JM)

11300: STV-102, Southern Aviation, Ghana at 1753 wkg Khartoum. HB-DVN, unid Swiss Reg a/c at 1102 clg Cairo. HZ-WBT2, unid, Gov? at 1558 wkg Addis Ababa, selcal CL-AM. TS-IMG, Tunisair-7547 at 1528 wkg Tripoli, from Monastir to Jeddah, Airbus 300. AMB-095, German Air Rescue at 1804 wkg Cairo, from Luxor to Kilamanjiro. TT-AAI, Gov. of Tchad, at 1544 wkg Tripoli, FL-390. All in USB. (IB)

11309: At 1752, New York wkg several a/c re posn reports. Unable to ID a/c she was working. (DG)

11366: Varig LDOC in Portuguese at 2228 in USB w/Varig flight 352. (RP)

11396: Jakarta Aeradio, Indonesia, wkg various a/c in USB and EE at 1040. (TY)

11410: Unid USAF at 1625 in USB w/SKYWATCH wkg TALLOW 43 or similar, flight ops report, enrt Esteli, so on relief mission to Honduras. (AWH)

11462: High Pitched Polytone (XP) at 0700 in AM tonal numbers station. (SD)

11484: Unid at 1417 in RTTY 75/850 "the quick . . . 890 test" repeated, probably Isabella, PR. (AWH) Same at 2110 w/quick brown foxs, 1-0 count, test. (JML) *(Was here most of Jan. w/no ID — Ed)*

11521.7: RFVITT Dzaoudzi in ARQ-E3 192/400 monitored at 1400. Use to be 96 baud on 11521.9. (FH)

12196.7: RFHJ, FF Papeete, Tahiti at 1241 in ARQ-E3 96/425 idling only. (EW)

12359: Ship tfc at 0040 in GG re ETA of ship back to Germany via Panama Canal. (RC)

12564.5: UBJG, SRTM Deyma at 0833 in RTTY 50/170 crew TGs to UIW. (HOOD)

12577: NMC, USCG Point Reyes, CA at 0030 in FEC w/wx, ID's as NMC/NMO. (RC)

12593.5: 9VG, Singapore w/ARQ and CW ID at 2310. (FH)

12626.5: UON, Baku Radio monitored at 1110 in CW wkg 4JIB, TKH Baki (ex Avetik Isaakyan). (HOOD)

12662: 7TF, Boufairk R, ALG at 0030 w/CW marker. (RC)

12780: D3E, Luanda Radio, AGL at 0022 w/CW marker. (RC)

12965: USO5, Izmail Radio at 0753 in CW w/crew TG to ENEG, TKH Rakhov (5657 dwt gen cargo vsl). (HOOD)

12988: LPD, General Pacheco Radio ARG at 0010 w/CW Marker. (RC)

13042.5: FUV, FN Jibuti Djibouti at 2125 in RTTY 75/850 w/RYRY and SGSG. (IJ)

13051.5: WLO, Mobile in FEC w/One of six dedicated dual mode HF radio channels for automated Internet access, 4256 6416 8473 11051,5 16997.5. (FH)

13062: CLA, Havana Radio at 0050 w/CW marker. (RC)

13083: KMI, AT&T Point Reyes, CA at 0005 in USB w/ann of final closedown Feb. 28, 1999. (RC)

13125: LZW, Varna Radio at 1010 in USB w/tfc list. (HOOD)

13140: Rogaland Radio, Norway at 1600 in USB w/unlisted ship *Girl Maiden.* (PP)

13143: Mariupol Radio at 1605 in USB w/frequent ID in RR.(PP)

13197: Odessa Radio at 1615 in USB w/RR tfc. (PP)

13285: Rainbow Radio LDOC, ON, CAN, Dispatch in FF at 2141 in USB passing wx for Montreal/Mirabel airport to unid a/c.(RP)

13306: Heard at 1227, Perth clg Mauritius in USB. (EW)

13330: Houston Radio at 2219 in USB w/flight 8601 discussing possibility of diverting to Denver. (RP)

13339: OM/FF monitored at 1403 in USB, in accented FF w/unid a/c passing wx info, possible LDOC Zaire. (RP)

13437: CTU, Monsanto in RTTY 75/850 testing, RYs, Fox to RPTI in EE at 1508. (FH)

13446.7: Heard at 1221, encrypted messages from Islamabad Pakistan in TWINPLEX 100/170. (EW)

13530: NAR, USN Key West w/KAWN relay from Saddlebunch Key at 1500 in RTTY 75/850 //7784, this would be ex-9830. (AWH)

13906: The Counting Station (E5) at 1228 in AM numbers station in progress //15732. (SD)

13950.2: NMC1: USCG CAMSPAC at 0009 in G-TOR 100/200 clg NMAG: USCGC Hamilton (WHEC-715), NYCQ: USCGC Boutwell (WHEC-719), NSTF: USCGC Steadfast (WMEC-625), NRPX: USCGC Buttonwood (WLB-306), and NLPM: USCGC Chase (WHEC-718). (DW)

14000: Nancy Adam Susan nbrs hrd in USB at 1400. OM opr Rptng "FYP" and "ORU" in phonetics. (TY)

14386.8: Unid in 50 baud RTTY at 1300, lists DLAM, BS6E, MP6Z, UT3D, test telex. (JML)

14487: Lincolnshire Poacher, CYP at 1600 in USB w/Id 39164.(AB)

14529.9: AFA4OL, USAF MARS at 2000 in G-Tor 100/200.(X)

14577: The CIA Counting stn hrd in AM at 1200 //13906 kHz. (TY)

14654.5: SPW, Warsaw Radio, Poland at 0805 in ARQ w/Msgs. (IJ)

14686: 911 and 912 rep to ATLAS they're enrt SUNDANCE 100 at 2200 in USB. (MF)

14739: The CIA Counting stn hrd in AM at 1300 //161981//19622 kHz, 19622 was very low modulation. (TY)

15016: At 0016, KING 01 w/pp thru Elmendorf to unid ops, re if there was any intel on any new threats in ops area. Also wanted the unid ops to notify another station to meet King 01 on the prearranged HF frequency. (DS2) At 0538 EGAR 11 wkg Anderson w/pp to duty office. (NJ) Both in USB.

15041: TROUT 99, DV-3 + 10, outbound Hickam for Langley at 1845 in USB, ETA 0230z, wkg Andrews VIP for pps. Also found on: 6761, 8040, and 11466 at various times. (JJ)

15873.5: RFGW, Paris, F at 1645 in FEC-A 192/419, garbled 5-6L gps w/much cf letters to G8T, U3H, W5E and H6L. (PLOO)

15907.2: Unid at 0950 in Packet 300 baud, clg 851 and 981. (JML) *(This network is reportedly shared with Sudanese Intelligence, The Islamic Revolution Guard Corps (IRGC), MFA Khartoum, and other African MFAs, both calls 851 and 981 noted before — Ed)*

16012.4: FDI8, Fr AF, Nice, F at 1515 in 50/400 alternating between "Test de FDI8" and "RHHLACOLT de FDI8." (JD)

16013.7: Unid ARQ at 1410; a few words of Arabic, and selcal KKVA; also used FEC briefly. Presumably Egyptian diplo, but did NOT have continuous tone between bursts. (JD) *(Selcall KKVA is reportedly the Egyptian embassy in Lagos — Ed)*

16015.2: Unid at 1240 in ASCII, 300 baud w/TKS OM GB 73 88 SK. (JML)

16091.7: Egyptian Embassy Washington DC in ARQ at 1630 w/5L to Cairo, signed. (JR)

16317.5: Serbian diplo, unid embassy in RTTY 75/850 at 1415 w/op chat, MFA Belgrade was up on 16302 at 1430 in 75/850 as mentioned in chat. (JR)

16324.7: RFTJD, Libreville in ARQ-E3 192/380 (JDJ) idle to RFTJ Dakar at 2200. (FH)

16350: CLP24 and CLP52 in CW/USB at 2321 wkg CLP1, no ID's on these calls, definitely a Cuban training net. (JR)

16353: Unid at 1309 in ASCII 213/554 w/telegrams, poss Slovakian. (JML)

16427.2: Unid at 1550 in Packet 300 baud w/RYAU and UAMX. (JML)

16706: UZDH, TKH Nikolay Morozov at 0931 in ARQ w/crew TGs to USU. (HOOD)

16799.5: UIMS: NIS Akademik Nikolay Strakhov at 0815 in RTTY 50/170 new year TGs via UIW (is ex UVXJ). (HOOD)

16905: FUV, Jibuti in RTTY 75/850 RYs at 1955. (FH)

16961: CLA, Havana Radio at 1550 in CW w/CQ mkr. (DW)

17064.8: EAD3, Madrid Radio at 1555 in CW w/ch mkr. (DW)

17082: UAI3, Nakhoda, RUS in CW at 0140 w/marker. (JR)

17177: URK9, Kerch Radio at 0925 in RTTY 50/170 crew TGs to UUUT: RTMS Ivan Burmistrov (via "Kerch Rybprom Radiocentr"). (HOOD)

17180: FUG, La Regine in RTTY 75/850 RY Testing at 1828 (Usually HWN this freq.) (FH)

17236.4: Unid, Brazil? at 1400 in Packet 250 baud w/"there are four messages." (JML)

17242: IED21, Italian Air Force Rome monitored at 1048 in Packet 300 baud w/msg "fm Comsup Aves." (JML)

17245: GKT62, Portishead Radio at 1100 in USB w/wx synopsis. (HOOD)

17317: Athens Radio wkg vsl "SXBV", cargo vessel Sunny, at 1746 in USB and w/SYNF, bulk carrier Alpha Gemini, in Greek. (RP)

17410: Mossad (E10) at 1100 in USB w/msg id EZI //15980. (SD)

17416.5: Russian MFA at 1735 in RTTY 75/425 w/RY's to KRN, tfc on link 00178. (JR)

17418.4: Embacuba Kinshasa in RTTY 50/425 at 2028 w/SS p/l msgs and press report, MFA Havana on 18678.2. (JR)

17422: CLP8, Embacuba Conakry in CW at 2005 clg CLP1 (on 18678) no joy. (JR)

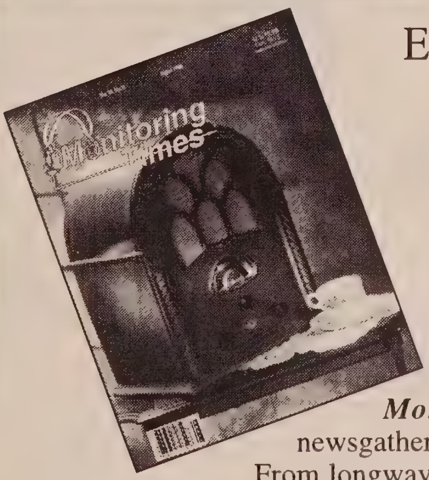
17550.8: RFTJ, FF Dakar in ARQ-E3 192/380 (AFL) msg FF RFTJC to Relay Station at Provence for several stns in France monitored at 1855. (FH)

18000: Nancy Adam Susan nbrs hrd in USB at 1100, OM Rptng "BEC' and "QRU" in phonetics and heavily accented EE. Where is the "NAS" nbrs? (TY) *(Reportedly DF'ed to a location near Alexandria, Egypt, poss on the coast near Alexandria or perhaps off the Egyptian coast — Ed)*

18012: Trenton Military at 2144 in USB w/UN 399 (CanForce a/c on UN mission) passing wx for Quebec and closing radio guard. (RP)

18023: Berne Radio monitored at 1627 in USB, w/flight 1506 in GE. Switches to 15046 then to 13205. (RP)

18033.2: CLP1, MFA Havana at 1830 in



INTELLIGENCE AND NEWSGATHERING AGENCIES SUBSCRIBE...*SHOULDN'T YOU?*

EVERY MONTH *Monitoring Times* offers the latest in:

- Shortwave and longwave DXing
- Scanners
- International broadcasting program schedules
- Frequency lists
- Utility monitoring
- Listening tips
- Satellite sleuthing
- News-breaking articles
- Exclusive interviews
- Insights from the experts
- New product tests and reviews
- Electronic projects
- Reader questions and answers

Packed with up-to-date information concisely written by top writers in the field, ***Monitoring Times*** is considered indispensable reading by top government and newsgathering agencies.

From longwave to microwave, if you are interested in communications, ***Monitoring Times*** is your guide to profiles of government, military, police, fire, and emergency networks; and monitoring everything from land, air, sea, and space.

Order your subscription today before another issue goes by! Enjoy a six month trial subscription for only $12.95-US, $19.95-Canadian Surface, or $28.95-Foreign International; or a full year subscription for $23.95-US, $36.50-Canadian Surface, or $55.45-Foreign International. All payments must be in US funds drawn on a US bank. For Visa, Mastercard, and Discover orders, call toll-free (800) 438-8155, or (828) 837-9200; Fax (828) 837-2216; e-mail **order@grove.net**. Visit our award-winning Web site at **www.grove-ent.com**, or mail your check to Monitoring Times, P.O. Box 98, Brasstown, NC 28902.

RTTY 50/425 clg CLP18, then into circulars to same. (JR)

18042.6: RFTJD Libreville in ARQ-E3 192/405 (JDJ) at 2038 relaying back to RPTJ his cdv. (FH)

18055: DZFG, MFA Serbia monitored at 1430 in RTTY 75/425 RYRY call up into XYXY crypto. (AWH)

18056.3: MINREX, Havana, Cuba monitored at 2102 in RTTY 50/591, garbled tones, SS circulars. (PLOO)

18242: ZRO4, Pretoria Meteo, South Africa at 0630 in RTTY 75/425 w/WX synopsis. (IJ)

18515: Abnormal Cynthia xmission. This stn started as usual at 0700 in AM, suddenly off at 0716, at 0719 nbrs started in AM until 0724. At 0726, nbrs in pure USB until 0730, then at 1631 into AM until 1637, and at 1640 in AM until 1644, finally at 1645 into USB, ended w/"End" at 1650, //17641 kHz. On another day similar xmission started at 0800 here and 10262 //12110 kHz at 1100. First time I've ever hrd such a curious Cynthia bdcst.(TY)

18628.1: CLP1, MFA Havana at 1420 in RTTY 50/425 w/5F to unid stn. (JR)

18643.3: MINREX: Havana, Cuba at 1640 in RTTY 75/501, crypto after zzz then circulars in SS. (PLOO)

18871.8: IED22, Italian AF, Naquora at 0838 in Packet 300 baud w/tfc to IED21 "fm Italair." (JML) *(Ck 14831.9 and 14871.7 for these stns also — Ed)*

19131: ATLAS at 2113 in USB clg SUNDANCE 700,also up w/74C.(MF)

19354: Unid FAPSI stn at 0810 in RTTY 75/500 w/5L and QRU. (IJ)

19730: RFGW, Paris in FEC-A 192/400 finishing msg to Embassy and off 1509. (FH)

19755: EHY, Madrid Radio, E at 1452 in USB Phone patch. (AB)

20017: Unid Cuban diplo in RTTY 50/425 at 1545, very weak signal. (JR)

20032.6: CLP1 MFA Havana, Cuba at 1935 in RTTY 75/500 w/NXs in SS. (IJ)

20584: Groupement Salini, Guinea in ARQ at 1700 w/tfc. (JML) *(Salini Costruttori S.P.A, (Construction Co) or SALCOST, is based in Rome, Italy, w/freq used for Sitor and voice comms w/ their yards in Garafiri, Guinea, Uganda, and throughout Africa on their giant hydroelectric projects — Ed)*

20609: HBD20/5, MFA, Berne, Switzerland at 1430 in ARQ w/5L. (PLOO)

20780: RFGW Paris FEC-A 192/395 idle 30 minutes and off 1922. (FH)

20896.3: CLP44 Embacuba Zimbabwe at 1610 w/ZZZZ crypto and SS p/l tfc. (JR)

20956.8: CLP23 Embacuba Lagos monitored at 1428 in RTTY 50/425 w/ZZZZ crypto and SS p/l tfc. (JR)

21811: The CIA Counting stn hrd in AM at 1100 //16086 kHz. (TY)

23358.7: RFFTD Paris ARQ-E 192/400 (IGU) FF msg and 5L to RFLIG Cayenne heard at 1655. (FH)

25705: OM/SS at 1812 in LSB, mentions army, materials and uniforms several times in conversation, wkg duplex. (RP)

This months contributors: (AB) Ary Boender, Netherlands; (AB2) Al Bauernschmidt, Pennsylvania; (AG) Alan Gale, UK; (ALS)Alan Stern, Florida; (AR) Allen Renner, Pennsylvania; (AWH) Albert W. Hussein, Florida; (BF) Bill Farley, New Mexico; (DG) Dan Gillespie, Michigan; (DS2) Dwight Simpson, Wisconsin; (DW) David C. Wright, Texas; (EDER) Elmer David Escoto Romero, Honduras;(EW) Eddy Waters, Australia; (FH) Fred Hetherington, Florida; (HOOD) Robin Hood, UK; (IB) Ian W. Baxter, UK; (IJ) Ian Julian, New Zealand; (JD) John Doe, UK; (JJ) Jeff Jones, California; (JM) Jack L. Metcalfe, Kentucky; (JML) Jean-Marie Langlade, France;(JR) Joe Richard, Florida; (JSDP) J.S. Ditlev-Petersen, Denmark; (MF) Mike Fink, Ohio; (MS) Mike Scott, New Jersey; (NJ): Noel Jones, New Zealand; (PLOO), Ploo, Canada; (PP) Patrice Privat, France; (RC) R.D. Carter, North Carolina; (RH) Russ Hill, Michigan; (RM) Roland R. McCormick, Georgia; (RP) Ron Perron, Maryland; (SD)Simon Denneen, Australia; (TY) Takashi Yamaguchi, Japan; (X), Mr. X, Anonymous southern U.S. and (Ed.) ye editor in Ohio. Thanks to all for a super turnout with 35 contributors! ■

Getting Started Videos

Getting Started in Ham Radio– How to select equipment, antennas, bands, use repeater stations, grounding, basic soldering.

Getting Started in Packet–De-mystify packet. Info on making contacts, bulletin boards, networks, satellites.

Ham Radio Horizons–Step-by-step instructions for the prospective ham on how to get involved.

Getting Started in VHF–Intro to VHF. Repeater usage, packet, satellites and more exotic VHF op modes.

Getting Started in Amateur Satellites– How ops set up stations. Locate and track ham satellites.

Getting Started in DXing– Top DXers share experiences with equipment, antennas, op skills and QSLing.

Getting Started in Contesting– Advice and op tips from Ken Wolf, K1EA, K1AR and others!

$19.95 each–
Buy more and save!
Buy 2 or 3 for $17.95 each
Buy 4 to 6 for $15.95 each
Buy all 7 for your Club for only $99.95!!

Name ______________________
Address ______________________
City ______________________
State ______________ Zip ________

Qty
_____ Getting Started in Ham Radio
_____ Getting Started in VHF
_____ Getting Started in DXing
_____ Getting Started in Packet Radio
_____ Getting Started in Ham Satellites
_____ Getting Started in Contesting
_____ Ham Radio Horizons
_____ Total Videos X $________
= $________
Shipping/ handling $________
Total $________

Also available in PAL format.

U.S. and possessions - add $4 shipping/handling. *FREE S/H on orders $50 and over.
Foreign - shipping/handling charges are calculated by order weight & destination. *A $4 credit will be applied for Foreign orders over $50.

Call Toll-Free 1-800-853-9797

Credit Card No.______________ Expiration date______________

Method of payment ☐ Check ☐ Money Order ☐ Visa ☐ MasterCard ☐ Discover ☐ American Express

CQ Communications, Inc., 25 Newbridge Rd., Hicksville, NY 11801/516-681-2922; Fax 516-681-2926

Products *(from page 43)*

gy. They're equipped with noise-canceling circuits to reduce unwanted background noises from incoming transmissions by up to 50 percent. Models CS-300 and 500 offer the cleanest possible voice signals. A special TalkBack circuit with volume control enables outgoing transmissions to be heard right through the speakers of the CS-500.

Additional convenience features of all three speaker models include a fully adjustable mounting bracket, extra long 10-foot connection cable, and heavy duty cabinet construction made from reinforced ABS plastic.

Pohl added, "Professional drivers have told us time and again that they prefer to use Cobra-branded accessories with their Cobra CB radios." He continued, "These innovative extension speakers offer just the right style and substance for these consumers. And they can be installed in just two minutes."

The new Cobra extension speakers carry these suggested retail prices: CS-100, $14.95; CS-300, $19.95; and CS-500, $24.95. For more information, contact Cobra directly at 6500 West Cortland St., Chicago, IL 60707 or phone 773-889-8870. Don't forget to tell Cobra you read about it in *Pop'Comm.*

CIRCLE 102 ON READER SERVICE CARD

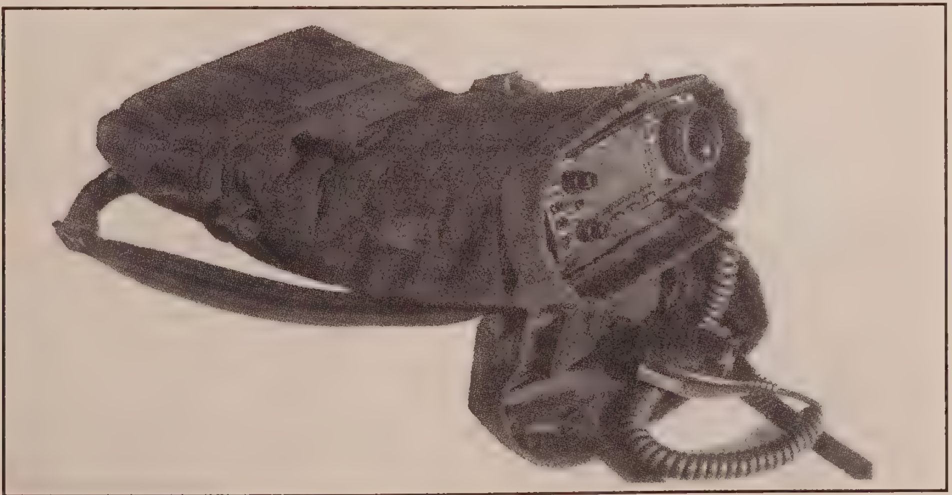
New HAM-Pack Carries Your Rig

Cutting Edge Enterprises just announced the introduction of their HAM-Pack, which lets you carry your station on your back easily on planes, trains, or safely and compact in your car. This specially designed man-pack carries new mobile HF rigs, such as the ICOM-706 or Yaesu FT-100, securely on your back with a compartment below for a rechargeable power supply and a pocket on the side to secure your mobile antenna. Now, you can take your rig and operate it anywhere you can walk.

This good-looking backpack is constructed of laminated heavy duty black nylon with quarter-inch foam padding. The radio is secured in the upper compartment in an adjustable radio sling that allows the unit to be raised or lowered easily for access and protection. Power cords pass through openings into the lower padded compartment that's designed to hold a rechargeable battery power supply (also available through Cutting Edge). The pack is sturdy, well padded, and weather-resistant. The lid has a convenient pocket for microphone storage. It can be carried on your back with body-contoured shoulder straps, or carried by the handle at the top. A mobile antenna, such as the Outbacker, fits neatly in a side pocket with easy access straps securing the upper portions.

The pack is small enough to qualify as airline carry-on luggage, complete enough to serve as an entire station, and comfortable enough to carry for miles. The special introductory price is $47.95 (the power supply kit, P/N HPP9A, is $63.95.) For more information, contact Cutting Edge Enterprises, 1803 Mission St., Suite 546, Santa Cruz, CA 95060 or call 800-206-0115. They can also be reached by E-mail at <CEE@cruzio.com>.

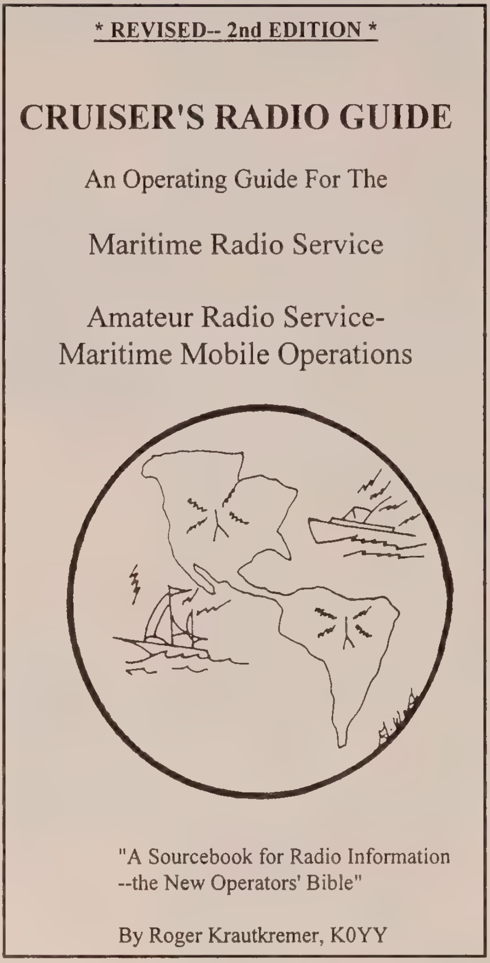
CIRCLE 103 ON READER SERVICE CARD



Traveling? Now bring your radio with Cutting Edge Enterprise's HAM-Pack.

All At Sea

The plight of the seagoing ham operator and all other two-way radio users aboard recreational vessels is addressed in the *2nd Edition of Cruiser's Radio Guide*, by Roger Krautkremer, K0YY.



* REVISED-- 2nd EDITION *

CRUISER'S RADIO GUIDE

An Operating Guide For The

Maritime Radio Service

Amateur Radio Service-
Maritime Mobile Operations

"A Sourcebook for Radio Information
--the New Operators' Bible"

By Roger Krautkremer, K0YY

The Cruiser's Radio Guide (2nd Edition) *is jam packed with information of interest to DXers and scanner owners who monitor HF and VHF maritime frequencies.*

This is a 55-page book that should easily interest the many DXers and scanner owners monitoring the HF and VHF maritime frequencies.

This guide discusses licensing, regulations, operating procedures, equipment, installations, troubleshooting, frequencies and their uses, advanced modes (SITOR, NAVTEX, PACTOR, WEFAX, and Packet), and weather information sources. There's plenty of information on new digital services, maritime mobile ham nets, marine broadcasts, new laws, plus plenty of onboard addresses, mailboxes, and Websites of MM hams. Lots of frequency data and charts are provided in the appendices, covering Coast Guard, High Seas Telephone Service, Standard Time and Frequency Stations, and more.

Cruiser's Radio Guide is $19.95 from nautical bookstores and other marine suppliers, and some ham dealers. If you have problems locating a copy, contact FMS Services, 2539 Fairplay Way, Aurora, CO 80014-2522. Phone them at 303-695-8715 or E-mail <rogerk0yy@ aol.com>.

CIRCLE 104 ON READER SERVICE CARD

Pop'Comm P.O. *(from page 6)*

the February issue, Mildred Gillars, sometimes referred to as "Axis Sally," never identified herself as "Axis Sally" or "Sally" — her radio name was "Midge" and her program was "Midge at the Mike." I was a regular listener to Reichsrundfunk's evening transmission to North America during WWII, hearing them also at other times, although I never heard any of Mildred's broadcasts for the troops. But I did hear many of her broadcasts to the homefront, which sometimes would be interviews with POWs at Stalags she would visit. There is actually a Hogan's Heroes episode in which a "Midge" visits the mythical Stalag 13.

Mildred was romantically involved with another RRF broadcaster, Max Otto Koischwitz (Mr. O.K.), a German who had held teaching positions at American universities. He was Mildred's mentor and protector. They sometimes did programs together.

Mildred was an attractive woman who spoke with a soothing, cultivated voice. According to John Carver Edward's *Berlin Calling: American Broadcasters in Service to the Third Reich*, there *was* a woman using the name "Axis Sally" — on Radio Rome. Mildred feared this person might be mistaken for her. By the way, I highly recommend Edwards' book to anyone interested in this aspect of WWII propaganda broadcasting.

At the conclusion of the newscasts on RRF, which would include a reading of "today's official German War Communiqué," announcer Karl Spenser would give the names of five POWs.

Of all the persons who broadcast to North America on Reichsrundfunk, one whom I have never identified was someone who called himself "Your Nazi Commentator," saying "This is your Nazi Commentator speaking to your from the Reich's capital."

My listening experiences involving WWII propaganda broadcasting from Germany are recorded in a monograph, "Reichsrundfunk Remembered."

I enjoy Alice Brannigan's articles.

Loren Cox, Jr.
Lexington, Kentucky

Abolish CB?

Dear Editor:

In response to your editorial "Senator Feingold Goes to Kingston" (*Pop'Comm*, March 1999) I am reminded of the continuing problems with 11-meter CB that have existed since the boom of the '70s. I was first introduced to radio communications in June 1965 when I was licensed as KMD7606. All went well with few stations on the air and I was fortunate enough to live with understanding neighbors, so when any RFI problems cropped up, they were easily dealt with. Shortly before the "CB boom," I moved into a neighborhood filled with angry, uncooperative people and had nothing but problems. The increasing QRM and neighbor problems forced me off the air and I was so soured on radio, I didn't even scan or SWL. After another move, I became interested in ham radio, became licensed, and put up a small VHF groundplane. I have had no problems since, except I am now on the receiving end of much interference to my television (even with a filter) and shortwave equipment traceable to CB. Having spent more than 30 years in radio and TV, I am not an ignoramus jumping to conclusions like those I experienced when I was a CBer.

Every time I read *Pop'Comm*, I am bombarded with much nonsense regarding 11-meters, and have come up with a logical solution to ALL problems associated with it. ABOLISH IT! Those interested in serious communications will be left to explore the possibilities of Family Radio and GMRS. Those with enough intelligence will study the code and theory sufficiently to become licensed amateur radio operators, as many ex-CBers have. Such people seem to be a definite minority though, and the majority of the buttheads that now infest the radio spectrum from 25–28 MHz and beyond (into 10 meters) will fall to the FCC's axe.

The 11-meter citizens band was a mistake to begin with and I see this as the only cure for this RF pollution since the "Band-Aids" so far applied haven't worked. Incidentally, the idea expressed in *Pop'Comm* of expanding CB into the "freeband" will only worsen the problem.

73,
Warren, KB2VXA

Lots Of Choices, But No NOAA Coverage

Dear Editor:

I was pleased to see a recent letter to you from Keith Wiglesworth in which he addresses some concerns about the NOAA weather radio system and the difficulty in getting widespread public interest in this worthy service. One of Mr. Wiglesworth's complaints was that he cannot receive a satisfactory signal despite being in an area that is served by seven airports and, it would be logical to assume, it would be an area that is well served by NOAA coverage.

My problem is almost opposite from Wiglesworth's. I live in a very rural area in Virginia that borders the state of Kentucky. The closest NOAA radio station in Virginia is about 200 miles away. The NOAA station closest to me in Jackson, Kentucky is not nearly as distant, and I receive that station's signal with no problem. However, the problem is that the broadcast from the Kentucky station does not officially cover my area of Virginia. Additionally, the Kentucky station is rebroadcast simultaneously on at least three additional NOAA frequencies.

My real problem arises from the fact that one of the frequencies being used by the Kentucky station is an NOAA weather station located in West Virginia, which does include my area of Virginia in its broadcasts and warnings. However, I cannot receive the West Virginia station because of the stronger signal from the Kentucky station. In effect, I have many stations from which to choose but none provide official coverage and warnings for my area.

I believe the NOAA weather radio system is a wonderful and very helpful service, especially for users of the service who have receivers with alert capability. However, based on my situation, it would seem the system is far from perfect when residents of a particular area are receiving a signal on a frequency from a station that overpowers another station intended for coverage in that area. Hopefully, someone in an official capacity with NOAA will read this letter and take some helpful action for me and others with similar coverage problems.

I would like to suggest to Mr. Wiglesworth that he consider buying an outdoor antenna specifically made for NOAA weather radio frequencies. I have one made by RadioShack and it provides a noticeable improvement in reception.

Ralph Vanover
Virginia

Dear Ralph:

Thanks for your letter which we've sent to NOAA public affairs. Other readers with similar problems and questions about NOAA weather radio coverage are urged to contact us and we'll gladly send the letters and E-mails to NOAA. It is a great service, but of course, there's always room for improvement.

1999 Calendars, Books, Cards & Videos!

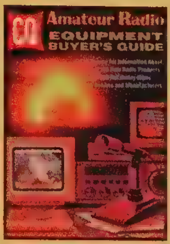
33 Simple Weekend Projects

by Dave Ingram, K4TWJ

Do-it-yourself electronics projects from the most basic to the fairly sophisticated. You'll find: station accessories for VHF FMing, working OSCAR satellites, fun on HF, trying CW, building simple antennas, even a complete working HF station you can build for$100. Also includes practical tips and techniques on how to create your own electronic projects.

Order No. 33PROJ.... $15.95

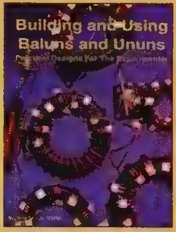
Amateur Radio Equipment Buyer's Guide



This 144-page book is your single source for detailed information on practically every piece of Amateur Radio equipment and accessory item currently offered for sale in the USA complete with specs and prices. Also includes the most comprehensive directory of Ham product manufacturers and dealers in the USA.

Order No. EBG...... $15.95

Building and Using Baluns and Ununs



by Jerry Sevick, W2FMI

This volume is the source for the latest information and designs on transmission line transformer theory. Discover new applications for dipoles, yagis, log periodics, beverages, antenna tuners, and countless other examples.

Order No. BALUN . . . $19.95

FREE SHIPPING on orders over $50*

CQ Award Pins

If you've earned any of CQ's Awards, you can also display the corresponding CQ Award pin. Available for WAZ, 5 Band WAZ, 160 Meter WAZ, CQ DX, CQ DX Honor Roll, WPX, WPX Honor Roll, and USA-CA awards. **ONLY $5.00 EACH.**

Playing Cards

Top quality, plastic coated playing cards.

ONLY $9.95 per deck

W6SAI HF Antenna Handbook

by Bill Orr, W6SAI

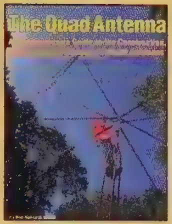
Inexpensive, practical antenna projects that work! Guides you through the building of wire, loop, Yagi and vertical antennas.

Order No. HFANT...... $19.95

The Quad Antenna

by Bob Haviland, W4MB

Second Printing



An authoritative book on the design, construction, characteristics and applications of quad antennas.

Order No. QUAD $15.95

The Vertical Antenna Handbook

by Paul Lee, N6PL

Learn basic theory and practice of the vertical antenna. Discover easy-to-build construction projects.

Order No. VAH....... $9.95

1999/2000 Calendars

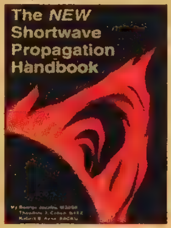
$9.95

Fifteen month calendars - January 1999 through March 2000

Please specify Amateur Radio or Classic Radio Calendar

The NEW Shortwave Propagation Handbook

by W3ASK, N4XX & K6GKU

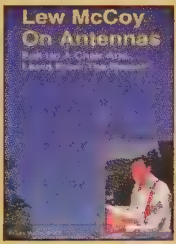


A comprehensive source of HF propagation principles, sunspots, ionospheric predictions, with photography, charts and tables galore!

Order No. SWP $19.95

McCoy on Antennas

by Lew McCoy, W1ICP



Unlike many technical publications, Lew presents his invaluable antenna information in a casual, non-intimidating way for anyone!

Order No. MCCOY $15.95

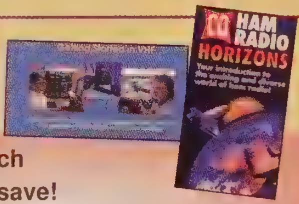
Keys, Keys, Keys

by Dave Ingram, K4TWJ

You'll enjoy nostalgia with this visual celebration of amateur radio's favorite accessory. This book is full of pictures and historical insight.

Order No. KEYS $9.95

Getting Started Videos - "How-To," Tips, Techniques & More!



Ham Radio Horizons: The Video . . *Order No. VHOR*
Getting Started in VHF . . *Order No. VVHF*
Getting Started in Ham Radio . . *Order No. VHR*
Getting Started in DXing . . *Order No. VDX*
Getting Started in Packet Radio . . *Order No. VPAC*
Getting Started in Amateur Satellites . . *Order No. VSAT*
Getting Started in Contesting . . *Order No. VCON*

Only $19.95 each
Buy more and save!
Buy 2 or 3 for $17.95; Buy 4 to 6 for $15.95
Buy all 7 for your Club for only $99.95

Fax us at 516-681-2926
Call us toll free at 1-800-853-9797

Name____________________ Callsign____________________
Strreet Address____
City____________________ State ________________ Zip____________

Qty	Item #	Description	Price	Total Price
U.S. and possessions - add $4 shipping/handling. *FREE S/H on orders $50 and over. Foreign - shipping/handling charges are calculated by order weight & destination. *A $4 credit will be applied for Foreign orders over $50.			Shipping/Handling	
			Total	

Method of payment ☐ Check ☐ Money Order ☐ Visa ☐ MasterCard ☐ Discover ☐ American Express

Credit Card No.____________________ Expiration date____________

CQ Communications, Inc., 25 Newbridge Rd., Hicksville, NY 11801/516-681-2922; Fax 516-681-2926

Readers' Market

Advertising Rates: Non-commercial ads are 30 cents per word, including abbreviations and addresses; minimum charge $6.00 per issue. Ads from firms offering commercial products or services are $1.00 per word; minimum charge $20.00 per issue. Boldface words are $1.20 each (specify which words). Leading key words set in all caps at no additional charge. All ads *must be prepaid in full* at time of insertion; a 5% discount is offered for prepaid 6 time insertions. All ads must be typewritten double spaced.
Approval: All ad copy is subject to Publisher's approval and may be modified to eliminate references to equipment and practices which are either illegal or otherwise not within the spirit or coverage scope of the magazine.
Closing Date: The 10th day in the third month preceding date of publication. Because the advertisers and equipment contained in Readers' Market have not been investigated, the Publisher of *Popular Communications* cannot vouch for the merchandise listed therein. Direct all correspondence and ad copy to: PC Readers' Market, 25 Newbridge Rd., Hicksville, NY 11801.

LEARN CODE BY HYPNOSIS — **<http://www.qth.com/cweasy/>; or call 1(800) 425-2552.**

RadioShack SCANNERS LOWEST PRICES all catalog items. NEW-FRS 105 Family Radio Service 2-way HT reg. $180 — OUR PRICE $150. Join our buying club and save. No tax. Call 1-800-848-3004 (orders only). **COTRONICS,** Inc., 2250 S.E. Federal Hwy., Stuart, FL 34994.

CB MODIFICATIONS! **10M, frequencies, sliders, amplifiers, FM, books, plans, kits, high-performance accessories, The best since 1976. Find out why! Catalog $3. CBCI BOX 1898A, MONTEREY, CA 93942. <www.cbcintl.com>.**

FOR SALE: ICOM R71A SW receiver. $575.00. Contact R. O'Donnell, 314-296-4673.

TOMCAT'S BIG CB HANDBOOK, by Tom Kneitel. 221 large pages, fully illustrated. Complete guide to worldwide AM, SSB, Freeband, 27 MHz operations. Everything they never told you (legal & otherwise) from world's leading CB authority. Only $15.95 plus $5.00 s/h (Canada $6.00) from CRB Research Books, Inc., PO Box 56, Commack, NY 11725. (NYS residents add $1.78 sales tax). Visa/MC orders call: (516) 543-9169.

LORD WYATT COMMUNICATIONS IMPORT/EXPORT RADIO HOBBYIST CATALOG—Everything for the CB & Radio Hobbyist—from SOUP TO NUTS—send $5.00 to LWC, P.O. Box 30128CBPJ, Brooklyn, NY 11203-0128 (718-789-7329 press ext 1).

TOP DOLLAR PAID. WANTED. Used (but not abused) Regency MX-3000 scanners (30 channel communications receiver) for backups and parts bins. Check your shack and vehicles for surplus or unused units (MX-3000's only). Advise condition and price wanted to Jan D. Lowry, 28243 Royal Road, Castaic, CA 91384-3028. (No calls please).

CB and 10 METER Equipment: Ranger, Galaxy, Mirage, Super Star, and Much More! Send 3 stamps to EDS, P.O. Box 343, Howell, NJ 07731.

Radio Stuff Sale: Books, magazines, club bulletins, radio station items, old time radios & more. $1 for list. G. Dexter, 213 Forest Street, Lake Geneva, WI 53147.

WANTED: CB RADIO EQUIPMENT—I'm looking for all types of old/vintage CB radios, amps, manuals, magazines, mics, etc. **PLEASE CALL** anytime. **WALTER** 818-297-7249.

NEED HELP! RadioShack can't repair/replace band switch and FET amp on analog geezer's like-new Realistic DX-200. Can anyone? Joseph Burgess, 407 Hiawatha, Frankfort, KY 40601, (502) 695-3016.

MESSENGER, RED DEVIL, SHOOTING STAR, PALOMAR, SUPERSTAR, UNIDEN, CB RADIOS, MICROPHONES, EXPORTS, GALAXY, ETC, MORE!! 5 PAGE PICTURE PRICE SHEETS $1.00 (REFUNDABLE) SCANNERS TOO!! GALAXY, BOX-1202, AKRON, OHIO 44309 OVER 15 yrs IN BUSINESS!!

RF TRANSISTORS AND TUBES 2SC879, MRF454, MRF422, 2SC1969, MRF492, 2SB754, SD1446, MRF247, MRF317, 2SC2166, 3-500ZG, 2CX3000A7, 4CX250B, 7580W/ 4CX250R. WESTGATE 800-213-4563.

WANTED: Schematics or books for: Heath CB-1, EICO-147 Signal Tracer, R-122A/ARN-12 receiver. Will pay reasonable copying costs. W8MIA, FAX questions 805-498-3424.

DRAKE SW8, MINT CONDITION, MANUAL $495.00. SONY ICF-2010 AS NEW BOXED ALL LITERATURE $275. KENWOOD R-300 MINT, $95.00. CALL JERRY, 954-720-1972.

GE SUPERADIO III with up to four SCS bands is the DX'ers choice. AM modification included. Low as $85. 800-944-0630.

SCANNING USA, monthly magazine 100% scanning. All the news and product reviews from the writers you trust. Get more from your scanner. Subscriptions $24.95, samples $3. 1-800-651-0922. Use Visa or Mastercard. 2054 Hawthorne, Joliet, IL 60435.

FOR SALE: Terminal Node Controller (TNC) AEA PakRatt PK232 MBX. $200.00. Contact R. O'Donnell, 314-296-4673

LEARN MORSE CODE IN 4 HOURS! Taught the military method. Send $9.95 to: J.L. Steiger, 375 Hillside, Seven Hills, OH 44131.

RADIO STUFF SALE: Books, magazines, club bulletins, radio station items, old time radio & more. $1 for list. G. Dexter, 213 Forest St., Lake Geneva, WI 53147.

WANTED: **NORWOOD XLP** 4-track tape recorder. Must be in good working condition. Contact RLN, P.O. Box 238, Chicopee, MA 01014-0238.

CB MODIFICATION SECRETS, big new 200-page guide by Kevin Ross, author of "CB Radio Hacker's Guide." More great easy-to-do Am/SSB CB equipment upgrades and enhancements applicable to Cobra, Realistic, Uniden, President, etc. Freq. expansion, VFO, clarifier unlock, VOX, Roger Beep, anti-theft device, receive signal preamp, much more. Only $21.95, plus $5 s/h ($6 to Canada) from CRB Research Books, P.O. Box 56, Commack, NY 11725. NYS residents add $2.22 tax. VISA/MC orders call: (516) 543-9169.

START YOUR OWN COMMERCIAL RADIO STATION WITH ONLY $5000 OR LESS! Yes it's possible & legal. Part 15 of FCC rules allows low power AM radio stations to operated without a license!! Cover an entire town & bill $1500 a month!! It has been done!! Order the newsletter booklet that tells you all you need to know to get started for $29.99. Send check or money order payable to: WCTD AM 1620, 4 Canal St., Westerly, RI 02891 or call 401-348-9222 for information.

MILITARY RADIOS: Easily made battery adapters for military radios & other electronics. Get **POWER UP!** Big new 96-page manual of instructions, diagrams. Use readily available commercial batteries in PRC-6, -8, -9, -10, -25, -28, -47, -74, -77, TRC-77, AN/PRC-9, AN/PRT-4, RT-77, URC-68, more; also mine detectors, night scopes, radiacs, field telephones, etc. Only $14.95, plus $5 s/h ($6 Canada). NYS residents add $1.53 tax. CRB Research Books, Box 56-PC, Commack, NY 11725. VISA/MC accepted. Phone (516) 543-9169.

POPULAR COMMUNICATIONS, 1983–present, $75. Callbooks, US/DX, 1979/80/84, $10 All. U ship. W9STB, 2608 West 1000 North, Michigan City, IN 46360.

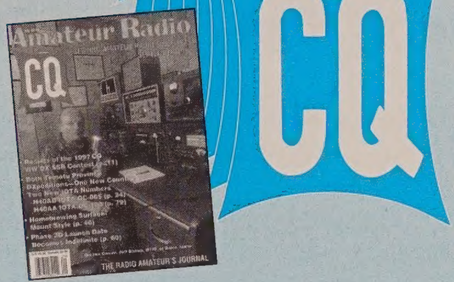
Advertisers Index

AOR USA, INC. 7
Alinco 23
Alpha Delta Communications, Inc. 9
Antique Radio Classified 21
Atlantic Ham Radio 9
Atomic Time, Inc. 35
Bill's CB & 2-Way Radio Service 38
C. Crane Company ....Cov III
C & S Sales, Inc. 37
CQ Merchandise 77
CQ Videos 74
CRB Research 50,61
Computer Aided Technologies 42,43
Cutting Edge Enterprises 11
DWM Communications 29
Delphi Internet 21
Delta Research 47
Drake, R.L. Company 13
Durham Radio Sales & Ser., Inc. 61
Firestik Antenna Company 51
ICOM America, Inc. 17
Jesse Jones Industries 66
Jo Gunn Enterprises 47
Lentini Communications, Inc. 1
MACO Mfg. /Majestic Comm. 37
MFJ Enterprises, Inc. 39
MetroWest Inc. 29
Monitoring Times 73
MoTron Electronics 61
Optoelectronics, Inc. ....5,Cov IV
PALSTAR INC. 21
REACT International, Inc. 71
Signal Engineering 38
Software Systems Consulting 37
TEN-TEC, Inc. 51
Universal Radio, Inc. 3
Viking International 16
Wilson Antenna, Inc. 19
Wireless Marketing Corporation 31
Yaesu U.S.A. ....Cov. II

Reach this dynamic audience with your advertising message, contact Don Allen, W9CW at 217-344-8653, FAX 217-344-8656, or e-mail: PopComAds@aol.com

If you enjoy Amateur Radio, you'll enjoy

CQ

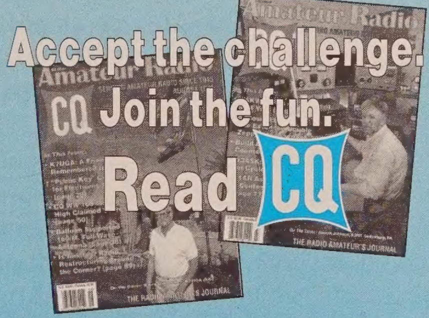


It's a different kind of ham magazine.

Fun to read, interesting from cover to cover, written so you can understand it. That's CQ. Read and enjoyed by over 90,000 people each month in 116 countries around the world.

It's more than just a magazine. It's an institution.

CQ also sponsors these fourteen world-famous award programs and contests: The CQ World-Wide DX Phone and CW Contests, the CQ WAZ Award, the CQ World-Wide WPX Phone and CW Contests, the CQ World-Wide VHF Contest, the CQ USA-CA Award, the CQ WPX Award, the CQ World-Wide160 Meter Phone and CW Contests, the CQ World-Wide RTTY Contest, the CQ 5 Band WAZ Award, the CQ DX Award, and the highly acclaimed CQ DX Hall of Fame.



Also available in the Spanish language edition. Write for rates and details.

SUBSCRIBE TODAY!

	USA	VE/XE	Foreign Air Post
1 Year	27.95	40.95	52.95
2 Years	49.95	75.95	99.95
3 Years	71.95	110.95	146.95

Please allow 6-8 weeks for delivery of first issue

CQ Magazine
25 Newbridge Road
Hicksville, NY 11801
Phone 516-681-2922
FAX 516-681-2926

CB/HAM RADIOS. Service & Modification Books. Alinco, RCI, Kenwood, Motorola, Cobra, Uniden. Antennas, Microphones, Meters, Scramblers, Accessories, Starlight Night Scopes. Catalog $3.00. **MAXTECH, BOX 8086, NY, NY 10150 USA (718) 547-8244.**

SHORTWAVE BROADCASTERS - Monitor your transmissions in your target area using the PSTN. **GOVERNMENT AGENCIES** - Control receivers or transceivers worldwide from your tone telephone. **Radphone 2000DX** available from **<www.pca.cc>** or Intelphone +61-2-9416-8799; Fax +61-2-9416-8761.

"HELP WANTED IN NEW HAMPSHIRE - Totally blind radio enthusiast in Lebanon, New Hampshire needs help erecting shortwave antenna. Call Fred anytime at (603) 448-0738."

The Dayton Amateur Radio Association (DARA) is now accepting applications for their annual scholarship awards. The DARA Scholarship Program is open initially to any FCC licensed amateur radio operator graduating from high school in 1999. There are no restrictions on the course of study planned by the student, nor does he/she need to be planning on a four year baccalaureate degree. However, schools awarding associate degrees or any technical institution selected must be accredited. The awards will be made on a non-discriminatory basis and will be based on a combination of factors, including, inter alia, financial need, scholastic achievement, contributions to amateur and community involvement. The decisions of the DARA Scholarship Committee are solely at the discretion of the Committee and are final. The number of awards made and the amount of an award shall be at the sole discretion of the Scholarship Committee and the Trustees of the DARA Scholarship Fund but will not exceed $2,000.00 per scholarship. Applications can be had by sending a SASE to: DARA Scholarships, 45 Cinnamon Ct., Springboro, Ohio 45066. The deadline for the submission of applications is June 15, 1999.

Poor reception on your A.M. radio? Our Signal Booster will help. Guaranteed! We also sell tubes and large coils for direction finders, loop antennas, security gates, metal locators, other projects. Send $2 for details (refundable with order). Fala Electronics-C, POB 1376, Milwaukee, WI 53201.

SCANNER CRYSTALS FOR SALE. Send a long SASE for list and price to G E Jones, P.O. Box 467, Buckeye Lake, OH 43008.

RADIO Technician, 26 year old, growing company in Beaumont Area is seeking techs to perform bench work on portable radios. One year experience in radio repair desired. Great Salary, benefits and profit sharing. Call John at (409) 755-7714 or mail resume to NCI, 313 S. LHS Dr., Lumberton, TX 77657.

WANTED: Grundig Satellit 700. Jack Waldron, (610) 692-4374.

BY BILL PRICE, N3AVY

The Loose Connection

RADIO COMMUNICATIONS HUMOR

Hot Dogs, High Places, And Y2K

I'm sure that many of you picture me living the life of luxury, shaded on my beachfront sun deck, pondering next month's "Loose Connection," sipping some exotic pomegranate-dew cooler. It's true that I'm paid handsomely for my efforts, but I've kept my day job to remain humble. Just as our editor Harold "Can you say *deadline*?" Ort never reads my engineering notebook from my day job, I can trust my daytime boss, Kirk "Find a *used* one" Tatem not to spend his lunch money on *Pop'Comm.* It is with that certainty that I now tell some of the most heretofore guarded secrets in the communication industry.

You can't cook a hot dog on a 30-foot uplink dish. Actually, you probably could, but I've never been able to find a non-conductive stick long enough that didn't bob like a German Shepherd's head on the back shelf of a '60 Impala. Besides — if you forget to swing the dish off-orbit, those satellite operators get really testy about an interrupted unmodulated carrier. You'd think they've never heard of CW.

An invoice for "microwave oven repair parts" can become "microwave rcvr repair parts" with the slightest stroke of a pen. True, my mentor and I bought the thing out-of-pocket at a flea-market for 30 bucks, but with something that old, the repair parts (available from one of our video-supply catalogs) can be annoyingly expensive. I know the boss has been looking for the magnetron we replaced in our 13 GHz receiver, but he doesn't want to appear as if he's not on top of things, so he hasn't mentioned it.

But the date codes are EMBEDDED! We have argued to no avail with the "Y2K Committee" regarding the possibility of "chips with embedded date-codes" in such things as antennas, waveguide, and transmission lines, but they have written the manufacturers demanding assurance that those items will not give us any Y2K problems. I am gradually building up such a hatred for the word "embedded," that it's going to be my "Niagara Falls" when someone says it just one too many times as we approach New Year's Eve. *Slowly I turn — step by step . . .*

It's the capacitor. It's ALWAYS the capacitor! My trusted friend Dave (his real name) has taught me many of the troubleshooting skills I now possess. When I questioned his rule, he explained that "Resistors don't go bad — they either burn out (visible) or they work; transistors rarely fail, it's their support-circuitry that goes. Resistors and capacitors. And resistors don't go bad." More than that, it's always the *electrolytic* capacitor — the others rarely go bad. 'Lytic's go bad just from age — typically seven years, whether in use or on the shelf. "Suspect the biggest one first — particularly in a power supply." Dave's usually right.

Resetting — the engineer's secret. "It just needed resetting. "We reset it and it's fine." "Can't find a thing wrong — I'm gonna reset it." In the trade (oh, the union will be all over me) to "reset" a system — a microwave transmitter or receiver, a modulator, an upconverter, an amplifier — almost anything we use in the industry — means *turning it off, counting to 10, and turning it back on.* Fortunately, the people to whom we report our findings, our diagnoses, our repair procedures, envision "resetting" as some secret combination of codes entered slowly and deliberately into the deep inner-workings of layer-upon-layer of printed-circuit boards using specialized engineer's tools, available only to "the trade," and the secret decoder ring.

That's engineer — not burro! Sexist-pig that I am, I feel taken advantage of when asked by someone of a frail gender to lift, move, or carry something completely unrelated to my job. "The engineers" often translates to "beasts-of-burden." I remember long ago, a day when I'd do it without complaint — a curse of my gender — like shaving — but while Maidenforms all around me were ablaze, Subsequently, I tried to signify my own liberation by burning my truss. I was arrested for "burning something disgusting without a permit."

Who wants to go up on the roof? Years ago, when I took this job, I was already old. Heights had become higher, angles had become steeper, and sure-footedness had become a memory. What a welcome addition I was to a twosome which had one member who "hated heights" and another who "*really* hated heights." I was the de-facto climber. I regained my youthful daring within a few days in order to pull my share of the load with my coworkers and have since become the one who climbs to ridiculous heights, hangs precariously over parapets, and dangles from masts and ladders while wasps wander merrily over my head and arms. (Kiddies — let this be a lesson to you — learn an indoor skill so you don't have to stoop to this level to earn a living.)

But oh, the perks. My most recent perk was a "Frequent Visitor" ID badge to the FCC's new headquarters. I'm known by the guys on the metal detector duty as "the guy with all the stuff in his pockets." I'm often whisked around the walk-thru detector used by the proletariat and "wand-searched," producing only those items which trigger an exceptionally large "beep." I carry several federal ID badges, and a federal agency press pass and am known by many *really* important people, such as security guards, parking lot attendants, and one particularly friendly homeless guy I've been feeding for about six years. I've televised National Transportation Safety Board meetings for almost six years now, and by osmosis alone, I'm becoming proficient at the techniques involved in accident investigation.

Years ago, I helped work on a TV translator above John Denver's Starwood home; last month, I televised the NTSB meeting which determined the probable cause of that exemplary pilot's death — and confirmed that he was indeed unimpaired by drugs or alcohol.

Take me home, country road. ■

C. CRANE COMPANY INC.

"... the CCRadio is a keeper."
Bruce Conti, Popular Communications

CCRadio

SANGEAN
FM AM TV WX
AM 770
CCRadio

High Performance AM Radio
. . . Hear How It Was Meant To Be

"Reminiscent of the old days ... when all radios used to have a good AM front end."

- **Excellent FM Reception**
- **TV Audio Channels 2-13**
- **Weather Band With Alert**

The ultimate information radio. Never before has a radio been specifically designed for talk radio, news, sports and weather. The custom filtered audio has been specifically tailored for a full rich sound of the human voice. All of the components for this radio have been carefully selected and engineered to produce the highest AM performance. 11"W X 6"H X 4"D. 3.9lbs.

Item #CCR $159.95

Visit Our Website: ccrane.com

CALL FOR

FREE Radio Land CATALOG

1-800-522-8863 (TUNE)

CIRCLE 124 ON READER SERVICE CARD

NEW

CATCH IT. HOLD IT. TUNE IT.

Tuning your receiver will never be easier. Introducing the all new Mini Scout Reaction Tuner. With a .001 second measurement time, the Mini Scout will not miss even the briefest of transmissions. While locking onto a frequency from up to 200 feet away (5w UHF), the Mini Scout automatically tunes the receiver* to the action using its patented Reaction Tune capability. No manual tuning necessary.

OPTOELECTRONICS
MINI Scout
FREQUENCY
445.976
MHz
Reaction Tuning Mini Scout
POWER ON
OFF
FILTER ON
OFF
CI-5
AOR
GATE
CAL

Patent No. 5,471,402

***Compatible Receivers:**

ICOM
7000, 7100, 8500, 9000, R10
AOR
8000, 8000B, 8200
Optoelectronics
Optocom, R11
Radio Shack
Pro2005/6 with OS456/Lite
Pro 2035/42 with OS535

No modifications necessary. Interface cables required.

Specifications	Scout	Mini Scout
10MHz - 1.4GHz	•	•
Reaction Tune	•	•
LCD Display	•	•
<3mV Sensitivity	•	•
Signal Strength Bargraph	•	•
Filter Mode	•	•
Capture Mode	•	
Backlight	•	
Beeper	•	
Vibrator	•	
400 Memories		
•		

Mini Scout Reaction Tuner

$249

OPTOELECTRONICS Scout

Patent No. 5,471,402 AR8200 Not Included

Scout Frequency Recorder Reaction Tuner

$349

Place your Order anytime at the Optoelectronics Cyber Store www.optoelectronics.com

OPTOELECTRONICS

SPECIAL
DB32 & CC30 $29

OPTOELECTRONICS
MODEL NO. N100

Are FM Broadcast signals a Problem?
Knock them out with the N100 Notch Filter. Blocks 88 - 108MHz, Connect between antenna and Scout or Mini Scout..$99

OPTODIRECT•800-327-5912

OPTOELECTRONICS®

5821 NE 14th Avenue • Ft. Lauderdale, FL 33334
Phone: (954)-771-2050 Fax: (954)-771-2052 E Mail: sales@optoelectronics.com

Prices and Specifications are subject to change without notice or obligation.
DB32 Antenna shown on Scout and Mini Scout sold separately. AOR, ICOM, Radio Shack are all registered trademarks

CIRCLE 132 ON READER SERVICE CARD